Office of Air Management Permit Application Instructions

PART 70/ENHANCED NSR/FESOP

State of Indiana
Department of Environmental Management
Office of Air Management

July 1995

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS
PART 70/ENHANCED NSR/FESOP

Introduction

The Clean Air Act Amendments of 1990 established a federal operating permit program (Part 70) to be developed and implemented by individual states. The Part 70 program is applicable to "major" source of air emissions. The Indiana Department of Environmental Management, Office of Air Management (OAM) will be responsible for the review and issuance of Part 70 permits (until local agencies are granted authority by the U.S. EPA) and the enforcement of the Part 70 permits. The OAM will be revising these forms as needed. If you are not sure if you have current forms, please contact the OAM for the latest revision.

These forms have been developed for use by those sources applying for the Part 70 operating permit or those sources utilizing the enhanced new source review construction permit option. These forms should also be used by those sources applying for a Federally Enforceable State Operating Permit (FESOP). Specific instructions for the FESOP applications are included towards the end of these instructions.

Several attachments to the instructions have been provided to assist in the preparation of the application forms. Attachment 1 includes state maps indicating the location of nonattainment areas in Indiana. Attachment 2 includes VOC Data Sheets for use by those sources required to complete FORM PI-16 [Printing] or FORM PI-19 [Surface Coating]. Attachment 3 includes guidance concerning applicable requirements. Attachment 4 is a completeness checklist for use by the applicant. Attachment 5 provides some guidelines for use in preparing compliance plans.

GENERAL INSTRUCTIONS

Applicability

Applicability is determined by the **Potential to Emit (PTE)** of the source or of changes to the source. The PTE values begin as the calculated maximum uncontrolled PTE of the emission unit or source. As regulatory limits are determined to be required (during this application review) for these emission units, their PTE (emissions) can decrease according to the following limits.

Regulatory Limits:

The regulatory limits that may apply to your source and may be used to limit the PTE are:

New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPs), Maximum Achieveable Control Technology (MACT) standards, and federally approved 326 IAC Indiana State Regulations.

Permitted Limits:

If corresponding limits are required (such as % sulfur content to meet an NSPS) or further reductions are chosen (to avoid PSD review) during this review, the following types of limits may be applied:

Material usage (rate)	Control Device Efficiency
Material composition	Other federally enforceable limits

These limits must be specifically defined as a condition of the permit (permitted limit).

"Major" sources of air pollution are required to apply for and operate under a Part 70 operating permit. The definition of **"major"** is based on the potential emissions of a source. The applicability levels for the Part 70 program are as follows:

Any regulated air pollutant		100 tons/year
VOC or NOx in Lake or Porter Co.		25 tons/year
Hazardous Air Pollutants (HAPs)		
	single HAP	10 tons/year
	combination of HAPs	25 tons/year

Note: The regulated air pollutants include air pollutants regulated under various Titles of the Clean Air Act, including criteria pollutants (VOC, NOx, PM_{10}, SO_2, Pb, CO), pollutants regulated under the New Source Performance Standards (NSPS) (dioxin/furan, fluorides, hydrogen chloride, hydrogen sulfide, sulfuric acid mist, total reduced sulfur, reduced sulfur compounds, and total suspended particulates), pollutants regulated under Title VI (Stratospheric Ozone Protection). Indiana Part 70 rules do allow certain exclusions, see 326 IAC 2-7-1.

As stated above, Part 70 applicability is based on potential to emit. Potential to emit is defined in 326 IAC 2-7-1 and is calculated assuming operations based on the maximum design capacity of the equipment or process operated over 8760 hours per year. Limitations on the potential to emit may only be included if the limitations are federally enforceable.

Application Forms - Part 70

The permit application will consist of various forms covering the source or plant in general and specific forms to describe specific operations. You must make sure that you have all of the forms needed to fully describe the operations and emissions at the source. All applications must contain General Information forms (GSD-01 thru GSD-10) and FORM GSD-11 if you are planning to propose alternative operating scenarios [*Form GSD-04, Stack/Vent Information is only required for construction permits under Enhanced New Source Review or sources operating without a permit*]. The Part 70 and Part 70 Enhanced NSR applications must also include Compliance Information forms (CD-01 thru CD-05), although the specific forms to be included will depend on the type of compliance plan chosen (applicable requirement or

facility/unit) and the compliance status of the units at the source **[FESOP sources are not required to complete the Compliance Information forms]**.

In order to describe the operations or processes at the source, the proper Process Information forms should be completed. The individual process forms are available to describe specific individual operations and should be combined with Control Equipment forms, if control equipment is present. Processes at the source that are not addressed by any of the individual process forms may be described using the Miscellaneous Process form. Information concerning emergency procedures, start up procedures, and/or upset conditions can be included on the Miscellaneous Process form or the information can be included on separate sheets. Be sure to identify and label the additional information.

The forms have been developed to allow you to combine Process Information, Control Equipment, and Compliance Data forms to fully describe the processes and emissions units at a source. Each unit or process included in the application would therefore require a PI, CE, and CD form. These forms (PI, CE, CD) should be combined together such that each process or unit has a "packet" of forms describing that unit or process.

The forms that are available for a Part 70/Enhanced NSR/FESOP application are listed in the Part 70/Enhanced NSR/FESOP Form Summary. If you need additional forms or a form is missing, please call the Office of Air Management at 317/232-8369.

Completing the Forms

Once you have received the forms needed by your source, you will need to prepare the forms. The forms may be filled out in any order, there is not a specified order for the completion of forms. However, it may be advantageous to complete general information forms first. If a portion of a form requests information that is not applicable, simply indicate by entering "N/A" in the appropriate space. If the information requested in one section is the same as a previously completed section, you may make a reference to the previous information. **If it is not clear that the requested information is included elsewhere or if there are blanks without some supporting explanation, the information will be considered incomplete and the application review will be delayed.**

Forms GSD-01 thru GSD-06 request information that may be obtained without information from other forms. The same information from these forms will also be needed for the completion of other application forms. Forms GSD-07 thru GSD-11 may also be completed initially; however, information from other forms (Process Information) may be useful for the completion of these forms.

The Process Information forms may be completed at any time. When completing the process information forms it should be noted that additional information will be needed to fully describe the process, control equipment, and compliance information. The Process Information (PI) form should be completed in its entirety and any additional information should be labeled properly and attached to the PI form. The PI form will request information concerning control equipment and the proper control equipment form should be completed. The PI forms also allow for calculating the "potential to emit" for the unit. After completion of the PI form, along with the associated Control Equipment form, the compliance data forms may be completed.

The Compliance Data forms describe the compliance status of an emissions unit, the compliance plan to assure continued compliance, and procedures required to achieve compliance in a compliance schedule. Information needed to determine applicable requirements for specific units will be available through guidance documents (Attachment 3) and can be used to determine the unit's compliance status. Once CD-01 thru CD-04 have been completed, the Compliance Certification (CD-05) must be signed by a responsible official. You do not need to return Attachment 3.

The other General Information forms GSD-07 and GSD-08 concerning emissions from individual units and the source may be completed after the Process Information forms have been completed. The information from the Process Information forms can be used to complete the source emissions summary.

After completing the required forms, you should complete the completeness checklist to make sure that all information has been provided and all forms are present. For those sources with a large number of processes, you will need to copy the page for process information forms in order to address all processes. Information not addressed will be considered to be incomplete, and the application review will be delayed. The completeness checklist summary (page 15 & 16) allows you to document what forms are included in your application and the number of those forms and should be returned with the application.

The complete application must be signed by the responsible official. Three (3) copies of the completed application forms should be sent to:

Indiana Department of Environmental Management
Office of Air Management-Permits Branch
Indiana Government Center North, 10th Floor
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

If your source is located in a Local Agency jurisdiction, then one (1) copy of the application should be sent to the Local Agency.

FESOP Application Forms

Sources seeking to limit potential-to-emit through federally enforceable permit limits should apply for a FESOP. Application requirements for the FESOP are different than those for a Part 70 permit. Sources applying for a FESOP application are not required to specify applicable requirements or include a compliance plan in the permit application. FESOP applicants are not required to provide emission information concerning Insignificant Activities, but must list these activities on FORM GSD-10.

The forms needed for the FESOP are as follows:

* General Information forms - GSD-01 thru GSD-11

* relevant Process Information (PI) and Control Equipment Information (CE) forms.

FESOP applicants **do not** need to complete and return any of the Compliance Information (CD) forms, and therefore will not be required to review and determine applicable requirements (Attachment 3). If additional space is required to present acceptable limitations (material usage (rate), material composition, control device efficiency, etc.), FORM GSD-09, Miscellaneous Information may be used.

After completing the application, three (3) copies of the completed application accompanied by a $3000.00 application fee must be sent to the following address:

Controller's Department
Attention: Cashier
100 North Senate Avenue
P.O. Box 7060, Room 1324
Indianapolis, IN 46206-7060

Any claims of confidentiality must follow the procedures outlined below.

Confidential Information

326 IAC 17-1-6 Confidentiality claims

A person submitting information to the board or department, who believes such information is entitled to confidential treatment, must take a claim of confidentiality respecting such information at the time of its submittal. Failure to make such claim waives the right to have the information treated as confidential. A claim of confidentiality must identify whether the information for which the claim is made is:

1) a trade secret;
2) privileged against evidentiary use in administrative or judicial proceedings; or
3) confidential data requested to be treated as confidential at the commissioner's discretion pursuant to IC 13-7-16-3(b) and IC 13-7-6-6.

Information submitted under the claim of confidentiality must be conspicuously marked "confidential", segregated from other items, and submitted in a separate sealed envelope marked "Confidential Materials".

Confidential information submitted under a claim of confidentiality must also be sent to the U.S. EPA. A copy of the confidential information should be sent with a confidentiality request to: Chief, Grants Management and Program Evaluation Section, U.S. EPA Region V, 77 West Jackson Boulevard, Chicago, IL 60604.

FORM SPECIFIC INSTRUCTIONS

The following section includes specific instructions needed to complete the individual permit application forms. An index of the instructions is presented below:

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS
General Source Data -- FORM GSD-01

Sources required to obtain a permit under 40 CFR 70 and 326 IAC 2-7, 326 IAC 2-8 (FESOP) and those sources electing to be subject to 326 IAC 2-1-3.2 must complete this application. Applications are incomplete unless all applicable information requested herein is supplied. Failure to supply any additional information requested by the Department to enable it to act on the application may result in denial of this application.

A. Date Application Completed: self explanatory

B. General Application Information:

1. Type of Permit for which application is made: Check the appropriate box to signify which permit application is being submitted.

a) A Part 70 permit is required for all major sources of air emissions (see 326 IAC 2-7-1(21) for the definition of a "major source").

b) A FESOP permit is required for all major sources that wish to limit the potential to emit (PTE) below the major source thresholds.

i) Initial permit application should be checked for first time Part 70 or FESOP permit applicants.

ii) Renewal permit is the permit reissued at the end of a Part 70 or FESOP permit term. If you have a current Part 70 or FESOP permit that is due to expire, check this selection.

iii) General should be checked if the source is seeking to establish a general Part 70 permit or if the source is seeking to be covered by a previously issued Part 70 general permit.

iv) Minor modifications are those modifications that are described in 326 IAC 2-7-12(b) and 326 IAC 2-8-11(b). Significant modifications are those modifications that are not included as a minor modification.

c) Construction permit should be checked if you are applying for a permit under the enhanced new source review.

i & ii) Check the appropriate box to indicate whether a new plant or facility is being constructed or the construction involves the modification of an existing plant or facility. For a modification, please only include that information pertaining to the modification.

iii & vi) Date construction will or did start and will be or was completed: are necessary to satisfy rule 326 IAC 2-13(2) which requires a schedule for construction and modification of said source or facility. If you are *unsure* when construction will start and be completed please

enter an estimated date in the estimate box. However, if you are *sure* when construction will start and be completed please enter the actual date in the actual box. By informing the air permitting section that the date provided is an estimate or actual can help determine whether you are in compliance. You must provide a construction date even if the facility or source is already constructed.

v) Date operation will or did begin: You must provide an operation date even if the facility or source is already in operation. Again, if you are *unsure* when construction will start and be completed please enter an estimated date. However, if you are *sure* when construction will start and be completed please enter the actual date.

New Unit Identification: For new construction or modifications, list the unit identification numbers for the new units to be constructed or modified.

2. EPA Area Designation

Check the appropriate box to signify whether the source is located in an attainment, unclassifiable, or nonattainment area. This information will be used to identify any additional applicable requirements and to assist in determining major source thresholds. Refer to the diagrams of the nonattainment and unclassifiable areas located in Indiana included with the general instructions. There are no serious or extreme nonattainment areas in Indiana.

B. General Source Information

1. Company Name: Provide the name and address of the company or plant where the emissions facilities are located.

2. Mailing Address: self explanatory

3. Street Address (if different): self explanatory

4. Contact Person: Provide the name and phone number of the person that is familiar with air pollution control matters at the company or plant. This is not necessarily the person that prepared the application, although it could be. See "agent" under **Owner Information**.

5. Telephone No.: See #4.

6. Fax No. (optional): If provided, provide the number for the person identified in #4.

7. Longitude:/Latitude: Provide the longitude and latitude of the plant site. This information may be obtained from U.S. Geological Survey maps.

8. UTM Coordinates(if known): UTM coordinates are Universal Transferal

Mercadum and can be obtained from the U.S. Geological Survey or the Indiana Department of Natural Resources. Zone 16 is a fixed UTM number for Indiana.

9. Self explanatory

10. Provide the AIRS facility identification number assigned to your source.

D. Owner Information

1. Company Name: Provide the full business name of the corporation, company, association, firm, partnership, individual, or government entity having legal ownership of the source.

2. Address: self explanatory

3. Telephone No.: self explanatory

4. Agent: Provide the name, address, and telephone number of the person responsible for preparing the permit application and supporting documents. This may be a consultant or legal person.

5. Address: See #4.

6. Telephone No.: See #4.

7. Fax No.(optional): self explanatory

E. Operator Information (if different than owner)

1. Company Name: If a company other than owner company operates the source, please provide the name, address, telephone number, and name of contact person. If the operator company and owner company are the same, put "N/A".

2. Address: See #1

3. Telephone No.: See #1

4. Contact Person: See #1

5. Telephone No.: Provide the telephone number of the Contact Person identified in #4.

6. Fax No.(optional): self explanatory

F. Responsible Official

1. Name: Provide the name, title, address, and telephone number of the responsible official who will provide certification for the application, any required reports, and compliance certifications. Fax number is optional. A responsible official is defined in 326 IAC 2-7-1(a)(33).

2. Title: See #1.

3. Address: See #1.

4. Telephone No.: See #1.

5. Fax No. (optional): self explanatory

G. Certification of Truth, Accuracy and Completeness

The application must include a certification by the responsible official. The certification must be signed by the responsible official. Any application without a signed certification will be returned as incomplete and the permit may be denied.

H. Library Location

Complete this section to comply with 326 IAC 2-1, 2-7, and 2-8 which state "Each applicant shall place a copy of the permit application for public review at a library in the county where the construction is proposed. Each applicant shall provide the commissioner with the location of the library where the copy can be found.

I. Plant Description

1. List all processes and products for normal operation:

SIC Code - Provide the Standard Industrial Classification (SIC) Code for the source. You may include SIC Codes for secondary or support operations.

Process - Identify the process associated with the SIC Code.

Products - Identify the products associated with the SIC Code.

J. Current Operating/Construction Permit Number(s):

Unit/Facility ID - Provide the unit or facility identification number. These identification numbers should correspond to the identification given to the unit when completing the FLOW DIAGRAM.

Permit Number - Provide the current permit number associated with unit/facility.

Provide a copy of each permit identified and attach to this form.

K. Limited Liability - IC 13-10-4-1

Unit/Facility ID - In order to claim limited liability under IC 13-10-4-1 for sources or facilities constructed or operated without a permit, you must identify those sources in the permit application. Use the ID# assigned to the unit or facility on other forms (GSD-02, PLANT LAYOUT; GSD-03, FLOW DIAGRAM; GSD-06, EMISSION UNIT DESCRIPTION).

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS
Stack/Vent Information -- FORM GSD-04

This form is required to be used for construction permit applications and Part 70 or FESOP applications including unpermitted units/facilities and will provide information for modeling. This form is not required for Part 70 and FESOP application renewals.

1. S/V ID: Provide the stack or vent identification used on FORM GSD-02, PLANT LAYOUT.

2. Stack Type: Indicate whether the stack is vertical, horizontal, etc. Use the following codes.

   Vertical stack = V
   Horizontal stack = H
   Wall vent = W
   Other = O

   Provide a description of other stacks/vents, attach to this form and label the attachment FORM GSD-04, STACK/VENT INFORMATION.

3. Stack Height: Provide the stack height from ground level in feet (ft).

4. Stack Shape: Indicate the stack shape using the following codes:
   Circular = C
   Rectangular = R
   Other = O Provide a description of other shapes, attach to this form and label the attachment FORM GSD-04, STACK/VENT INFORMATION.

5. Stack Dimensions: Provide the dimensions of the stack. For a circular stack, give the diameter; for a rectangular stack give the length and width. Be sure to indicate the units of measure (either inches or feet).

6. Maximum Flow Rate: Provide the maximum flow rate that will pass through the stack considering the equipment that is venting through it. This flow rate should be given in actual cubic feet per minute (acfm).

7. Estimated Stack Gas Temperature: Estimate the temperature of the gases just prior to the stack outlet. This number will be used to convert actual flow rate to standard flow rate (flow rate at 68^{o}F).

8. Related S/V Nos.: List any stack numbers (using the number from Column #1) that are related in any way (i.e. parallel stacks, bypass stacks, etc.). For bypass and parallel stacks, indicate this with a B for bypass and P for parallel (i.e. 05(B), 020(P), etc.). Please explain any other relationship that a stack may have, attach to this form and label the attachment FORM GSD-04, STACK/VENT INFORMATION.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Fugitive Emissions Source Description -- FORM GSD-05

1. ID#: Number all sources of fugitive emissions at your plant. Begin the numbering where you left off when numbering your stacks and vents. For example if twelve (12) stacks and vents were identified, begin the fugitive ID# with #13. Sources may be grouped together and given a common number, if appropriate (i.e. VOC service valves, flanges, pumps, etc.). The ID# must be consistent with the identification numbering used on other forms, FLOW DIAGRAM and EMISSION SUMMARY.

2. Pollutant Emitted: Provide the type of pollutant emitted as fugitive. This could include particulate matter, VOCs, or HAPs.

3. Brief Description: Provide a brief description of the fugitive emission source.

4. Emissions: Provide the estimated fugitive emissions from the source in tons per year (TPY). Attach all sample calculations and emission factor references and label as Form GSD-05, Fugitive Emission Source Description. **If this information is not included, the application will be considered incomplete and a request for additional information issued. This will cause a delay in application review and may be cause for permit denial.**

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Emission Unit Description -- FORM GSD-06

1. S/V ID: Fill in the Stack/Vent identification number for the stack or vent that this emission unit exhausts to. This number should correspond to the identification number used for this emission unit on FORM GSD-03, FLOW DIAGRAM.

2. Emis Unit ID: Fill in the emission unit identification number from FORM GSD-03, FLOW DIAGRAM.

3. Manufacturer: Fill in the manufacturer of the emission unit. This information is used to assist inspectors in identifying specific pieces of equipment at your company.

4. Model Number: Fill in the model number of the emission unit.

5. Install. Date: Provide, as accurately as possible, the date this piece of equipment was installed at your plant. The installation date is used to determine if any special regulations or performance standards apply to this piece of equipment.

6. Serial Number/Brief Description:

   Provide the serial number of the equipment. If a serial number is not available or applicable, briefly describe the emission unit you are referring to. The description should be complete enough that you can easily identify this unit at your facility (i.e., South Boiler, Spray Booth #2, etc.).

7. Maximum Unit Capacity: Fill in the maximum hourly processing capacity of this emission unit. This is generally the rated design performance of the emission unit, and is used to calculate potential-to-emit. For a boiler, the maximum capacity is usually expressed as millions of BTUs per hour or pounds of steam per hour. Be sure to include units. (i.e. 10MMBtu/hour, 7000 sheets/hour, 8000 lbs of board/hour, etc.). Maximum capacity will not be applicable to some units, because potential-to-emit is not calculated using the capacity of the unit (i.e. wood milling equipment). If this is the case, enter "N/A".

AIR POLLUTION CONTROL PERMIT APPLICATION

Source Pollutant Emissions Summary -- FORM GSD-07

1. **UNIT BY UNIT EMISSIONS SUMMARY:**

Unit ID or Fug ID: Provide the unit or facility identification number corresponding to the unit identification or fugitive emission source included on the FUGITIVE DESCRIPTION (GSD-05) and EMISSIONS UNIT DESCRIPTION form (GSD-06).

S/V: Provide the identification number of the stack, vent as indicated on the FLOW DIAGRAM and FUGITIVE EMISSION SOURCE DESCRIPTION forms. For fugitive emissions, leave this space blank as the fugitive ID and S/V ID should be the same.

Pollutant: List the pollutants for emitted from each unit.

ACTUAL: Provide the emission levels for each listed pollutant for the individual unit or facility. The units (U) should be reported as the same units as listed on the FORM CD-01, FACILITY/UNIT COMPLIANCE STATUS form and also in tons/year (TPY). The list of footnotes should be used to indicate the particular units being reported. For example, a boiler with actual SO_2 emissions of 1.4 lbs SO_2/MMBTU would be represented as:

Pollutant	Emission	U
Sulfur dioxide	1.4	2

Actual emissions should be based on normal (not maximum) operating conditions (actual hours of operation, control equipment, etc.). Tons/year figure should be calculated for the previous year of operation and should correspond to the emissions reported on the Annual Emission Statement, if you are required to complete the Emissions Statement.

POTENTIAL: Provide the potential-to-emit for the unit, facility, or fugitive source. The potential-to-emit is calculated based on the maximum design capacity of the unit and operating at 8760 hours/year. Limitations on operations (work practices) or emissions (control equipment) may be included in the calculations only to the extent that the limitations are federally-enforceable (required by NSPS, NESHAP, approved SIP requirement, NSR/PSD permit condition, etc.). Limitations that are not federally-enforceable cannot be included (state only requirement, local agency permit condition, etc.). The units (U) should be reported as the same units as listed on the FORM CD-01, FACILITY/UNIT COMPLIANCE STATUS form, if applicable requirement has units other than TPY, and also in tons/year (TPY).

2. **SOURCE EMISSIONS SUMMARY:**

Provide the total emissions of all units, facilities, or fugitive emissions at the source.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Source Hazardous Air Pollutant Emissions Summary -- FORM GSD-08

This form must be used to identify and quantify Hazardous Air Pollutant emissions from the source. Indiana does not have de minimis levels for HAPs, therefore all emissions that can be reasonably quantified must be included on this form.

1. **UNIT BY UNIT HAP EMISSIONS SUMMARY:**

Unit ID or Fug ID: Provide the unit or facility identification number corresponding to the unit identification or fugitive emission source included on FORMS GSD-05 or GSD-06.

S/V: Provide the identification number of the stack, vent as indicated on the FLOW DIAGRAM (GSD-03) and FUGITIVE EMISSION SOURCE DESCRIPTION (GSD-05) forms. For fugitive emissions, leave this space blank as the fugitive ID and S/V ID should be the same.

Pollutant: Provide the name of the hazardous air pollutant.

CAS #: Provide the CAS number associated with the hazardous air pollutant, if a CAS# is applicable.

ACTUAL: Provide the emission levels for each listed pollutant for the individual unit or facility. The units (U) should be reported as the same units as listed on the FORM CD-01, FACILITY/UNIT COMPLIANCE STATUS form and also in tons/year (TPY). The list of footnotes should be used to indicate the particular units being reported. For example, a boiler with actual SO_2 emissions of 1.4 lbs SO_2/MMBTU would be represented as:

Pollutant	Emission	U
Sulfur dioxide	1.4	2

Actual emissions should be based on normal (not maximum) operating conditions (actual hours of operation, control equipment, etc.). Tons/year figure should be calculated for the previous year of operation and should correspond to the emissions reported on the Annual Emission Statement, if you are required to complete the Emissions Statement.

POTENTIAL: Provide the potential-to-emit for the unit, facility, or fugitive source. The potential-to-emit is calculated based on the maximum design capacity of the unit and operating at 8760 hours/year. Limitations on operations (work practices) or emissions (control equipment) may be included in the calculations only to the extent that the limitations are federally-enforceable (required by NSPS, NESHAP, approved SIP requirement, NSR/PSD permit condition, etc.). Limitations that are not federally-enforceable cannot be included (state only requirement, local agency permit condition, etc.). The

units (U) should be reported as the same units as listed on the FORM CD-01, FACILITY/UNIT COMPLIANCE STATUS form, if applicable requirement has units other than TPY, and also in tons/year (TPY).

2. **SOURCE HAP EMISSIONS SUMMARY:**

Provide the total hazardous air pollutant emissions of all units, facilities, or fugitive emissions at the source.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Miscellaneous Information -- FORM GSD-09

Use this form to provide additional information that cannot be accomodated on any of the other forms.

Unit ID: Provide the unit (facility) identification number assigned to the unit on other forms (GSD-02, PLANT LAYOUT; GSD-03, FLOW DIAGRAM; GSD-06, EMISSION UNIT DESCRIPTION). If the form is not being used for unit specific information, enter "N/A".

Item #: Provide the item number (1, 2, 3, etc.) on the form for which this information is supplementing.

Form number to be supplemented: self explanatory

Additional descriptive/narrative information: Use this section to expand on any descriptive/narrative information.

Additional calculations/diagrams: Use this section to provide additional calculations or diagrams. If any information is attached to this form, make sure that it is labeled FORM GSD-09, Miscellaneous Information.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Insignificant Activities -- FORM GSD-10

Indiana's Part 70 permit program regulations require that an applicant list insignificant activities in the application. Insignificant activities are defined in 326 IAC 2-7-1(20). The definition includes the exemption levels specified in 326 IAC 2-1-1 and the following:

< 0.6 ton/year or < 3.29 lb/day -- Lead (Pb)
< 25 lb/day -- Carbon Monoxide (CO)

The exemption levels under 326 IAC 2-1-1 are as follows:

< 5 lb/hour or < 25 lb/day -- Particulate Matter (PM)
< 10 lb/hour or < 50 lb/day -- Sulfur dioxide (SO_2)
< 5 lb/hour or < 25 lb/day -- Nitrogen oxides (NOx)
< 3 lb/hour or < 15 lb/day -- Volatile organic compounds (VOC)

Part 70 and FESOP applicants are not required to provide any emissions information unless an exemption from requirements is being proposed. The list of insignificant activities should be included under Column #2, no other information is required. If you are proposing an exemption, then you must include all requested information.

1. Unit ID: Provide the unit (facility) identification from FORM GSD-03, FLOW DIAGRAM and FORM GSD-06, EMISSION UNIT DESCRIPTION. If the unit was not included on FORM GSD-03 or GSD-06, enter "N/A".

2. Description: Provide a brief description of the unit (facility) or activity. An example would be small space heater, small closed top degreaser. The size or capacity of the activity should be included whenever possible.

3. Emission level: Provide the emission level for the unit. The exemption is based on "allowable" emissions (see 326 IAC 1-2-2).

4. U: Provide the units for the emission levels. The exemptions are based on lbs/hour, lbs/day or tons/year. If you use a different unit measure, then specify the measure in the space at the bottom of the page.

5. Pollutant: Provide the name of the pollutant emitted from the unit (facility).

6. Citation: Provide the citation of the rule (326 IAC, 40 CFR) that applies to the exemption.

NOTE: ***The exclusion of emission information for insignificant activities only applies to the application content requirements and not the determination or imposition of any applicable requirement or the calculation of fees.***

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Alternative Operating Scenarios -- FORM GSD-11

Unit ID: Provide the unit (facility) identification number assigned on FORM GSD-03, FLOW DIAGRAM; GSD-06, EMISSIONS UNIT DESCRIPTION.

S/V ID: Provide the stack or vent identification number exhausting from this unit (facility).

Alternative Operating Scenario ID#: Provide an identification number to this unit operating under the conditions to be specified in the alternative operating scenario.

Alternative Operating Scenario Description: Provide a brief description of the alternative operating scenario. Example: a boiler is normally fueled with one type of fuel, but can burn another type of fuel. A description of the boiler and the alternative fuel would be included in this section.

Checklist: For each alternative operating scenario, basic information must be provided for review. The information should include a description of the alternative scenario in terms of process information, any control equipment to be utilized, methods to be used to demonstrate compliance, and the resulting emissions under alternative operating scenario conditions. Use this checklist to indicate the information attached for review. If a certain form or class of forms is not needed or included, enter "N/A"

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Incineration -- FORM PI-01

Any information missing will **halt** or **prolong** the review process. If you attach any information to this form, you must label the information with the form number and unit number, if applicable.

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

Stack ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Manufacturer:**
   State name of manufacturer of incinerator and the model or style number (if available) of the incinerator.

2. **Capacity:**
   Waste: Give capacity of waste input in pounds per hour.
   Heat: Give heat input capacity of supplemental fuel in Btu per hour
   This should be the total of all supplementary fuel Burners.
   Do not include heating value (if any) of the waste.

3. **Type of Wastes Burned:**
   Specify each type of waste to be burned. If you want to burn waste you must specify it here. Indicate if it is a special or hazardous waste and note the RCRA alphameric (i.e. F006) for each waste. If you do not specify a waste, your permit <u>will not</u> be issued. If multiple wastes are to be burned, specify the maximum percentage of those wastes to be burned.

4. **Check One:** Single or Multiple Chamber
   Check the appropriate line. A single chamber with an afterburner is one where the volatilized or pyrolyzed gases pass through only a secondary flame zone. A multiple chamber incinerator is one where the solid or liquid waste gasses passes through the settling chamber then through the afterburner.

5. **Primary Chamber:**
   Burner Present: Mark Y if a supplementary fuel burner is present in the primary chamber.
   Burner Btu: Indicate the supplementary fuel heat input rate in the primary chamber.
   Burner Fuel: Indicate primary chamber supplementary fuel.

Secondary Chamber:

Burner Present:	Mark Y if a supplementary fuel burner is present in the secondary chamber.
Burner Btu:	Indicate the supplementary chamber.
Burner Fuel:	Indicate secondary chamber supplementary fuel.

Note: 1. If supplementary fuel is oil, indicate the maximum % sulfur content.

2. If the supplementary fuel is a solid fuel, indicate the % sulfur and ash content.

3. The sum of the primary chamber burner Btu and the secondary chamber burner Btu should equal the supplemental fuel heat input rate indicated previously.

6. **Gas Residence Time:**

Primary and Secondary Chambers:

Indicate the time that the gas generated by the incineration spends in each chamber. The easiest (but least rigorous) estimate of this time is the volume of the chamber divided by the gas flow rate. The incinerator manufacturer should be able to provide this data.

7. **Operating Temperature:**

Primary and Secondary Chamber:

This refers to the average temperature in the chamber, not the outlet temperature. The incinerator manufacturer should be able to supply this data.

8. **Type of Particulate Controls:**

Check the appropriate box. Elaborate on the proper CONTROL EQUIPMENT form (CE-01).

9. **Manufacturer's Guaranteed Particulate Emission Rate:**

Indicate this in units of pounds of particulate per 1,000 pounds of dry exhaust gas, corrected to 50 % excess air. This data must be supplied by the manufacturer.

10. **Operation Schedule:** Provide the operation schedule of the incinerator.

Note: Supply stack test data (if available) for verification of emissions.

11. **Potential to Emit:**

Pollutant:	Provide the name of the pollutant if not listed.
Maximum rate(units/hr):	Provide the maximum production rate.
Emission Factor (lb/units):	Provide the appropriate emission factor.
Emission Rate(lb/hr):	Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]
Maximum Uncontrolled Emissions(tons/yr):	Provide the maximum uncontrolled emissions in tons/year. Calculate by

	[Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]
Pollution Control Efficiency(%):	Provide the control efficiency. Calculate by [(100 - % uncontrolled)/100]
Maximum Controlled Emissions(tons/yr):	Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

12. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Combustion -- FORM PI-02

Unit ID#: Provide the identification number for the unit (facility) assigned to the unit on other forms (GSD-03, FLOW DIAGRAM; GSD-06 EMISSION UNIT DESCRIPTION)

Stack ID#: Provide the stack or vent identification number assigned to the unit on other forms (GSD-02, PLANT LAYOUT; GSD-04, STACK/VENT INFORMATION)

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory. For those units that will be burning different fuels, or for use in alternative operating scenario identification, provide the segment identification number for this unit with a single fuel. *Note: a segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the source are directly related.*

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Type of Heating Unit:**
Indicate use of heating unit (i.e. boiler, radiant space heater, drying oven, incinerator, etc.

2. **Heat Input Rate:**
Indicate rated heat input capacity in million Btu per hour.

Note on fuel(s) used:
Check any fuels that are not applicable. If the unit has any capability of using a fuel, even if on a backup or intermittent basis; fill out the applicable section. Using a fuel that is not specified in the permit is a violation of the permit. This section is necessary to include that fuel on your permit. If you intend to use a fuel on a back up or intermittent basis, indicate any acceptable limits on page 2 of 4.

3. **Combustion Process:** Check the applicable process(es).

4. **Fill out if Fueled by Coal:**
Check "Not Applicable" if heating unit cannot use coal.

A. *Coal used:* Check the appropriate class of fuel.

B. *State of origin:* State where the coal was mined. Indicate county and Seam if known.

Percent ash: Indicate maximum ash content on a weight percentage basis. If more than one coal is used, indicate the highest ash content.

Percent sulfur: Indicate maximum sulfur content on a weight percentage basis. If more than one coal is used, indicate the highest sulfur content.

C. *Percent moisture:* Indicate average moisture content of coal as delivered to the combustor.

D. *Heating value:* Indicate minimum heating value of coal used. If more than one coal is used, indicate the lowest heating value. Also, indicate whether heating value was calculated on a dry or moist basis.

5. **Fueled by residual oil:**

A. *Grade of residual oil used:* Indicate either No. 5 (H for heavy, L for light) or No. 6.

B. *Percent Sulfur:* Indicate sulfur content of fuel on a weight percentage basis. If sulfur content is not indicated, a default value of 2% will be used.

C. *Firing:* Check the applicable firing technology.

6. **Fueled by distillate fuel:**

A. *Grade of distillate fuel used:* Check the appropriate fuel.

B. *Percent sulfur:* Indicate the sulfur content of fuel on a weight percentage basis. If sulfur content is not indicated, the following default values will be used:

No.1 0.3% No.2 0.3% No.4 2.0%

Heating Value: Indicate heating value in Btu/gallon.

C. *Firing:* Check the applicable firing technology.

7. **Fueled by natural gas:**
Firing: Check the appropriate technology. *Note that tangential firing applies only to boilers.*

8. **Fueled by a process gas:** (include coke oven gas and blast furnace gas)
Type of gas: Indicate the source of the gas.

Percent sulfur: Indicate the weight percentage of sulfur in the gas. If not indicated, the default value is 7 percent sulfur.

Heating value: Indicate the heating value of the gas in Btu per cubic foot.

9. **Fueled by liquified petroleum gas:**
Percent Butane: Indicate the weight percentage butane content in the LP gas.

Percent Propane: Indicate the weight percentage propane content in the LP gas.

Percent Sulfur: Indicate the weight percentage sulfur content in the LP gas. Default value is 1.5%.

10. **Fueled by waste oil:** This refers to used crankcase oil, hydraulic fluid, automatic transmission fluid, machining oil and similar fluids.

A. Percent of heat provided by waste oil: 100% unless another fuel is used.

B. *Heating Value:* Indicate heating value of waste oil in Btu per gallon.

C. *Percent ash:* Indicate weight percentage ash in the waste oil. If no value is indicated, the default value is 0.3%.

Percent sulfur: Indicate weight percentage sulfur in the waste oil. If no value is indicated, the default value is 2.0%.

Percent Chlorine: Indicate the weight percentage chlorine in the waste oil. If no value is indicated, the default value is 0.5%.

Percent lead: Indicate the weight percentage lead in the waste oil. If no value is indicated, the default value is 0.5%.

11. **Fueled by wood, wood waste, and/or bark:**

A. *Check one:* Wood or wood waste, bark only, wood & bark

B. *Percent Moisture:* Indicate maximum weight percentage moisture content. If no value is indicated, the default value is 30%.

Heating Value: Indicate heating value of wood products in Btu/ton.

12. **Fueled by liquid waste:**

A. **Percent heat provided by liquid waste:** Indicate the portion of heat input that is provided by the liquid waste. Liquid waste is usually co-fired with other fuel.

B. **Heating value:** Indicate the heating value of the liquid waste in Btu per gallon. Use attached sheets to specify heating value, sulfur content, chlorine content, fluorine content, heavy metal (lead, chromium, arsenic, antimony, beryllium, cadmium, cobalt, manganese, mercury, and selenium) content. Label additional sheets FORM PI-02 and include the identification information (unit ID, segment ID).

C. **Percent sulfur:** Indicate the weight percentage sulfur in the wastes. If no value is indicated, the default value is 7.0%.

Percent chlorine: Indicate the weight percentage chlorine in the waste. If no value is indicated, the default is 7.0%.

Percent fluorine: Indicate the weight percentage fluorine in the waste. If no value is indicated, the default value is 3.0%.

D. *Special or hazardous waste:* Indicate each special or hazardous waste to be burned. Include RCRA alphameric code. Attach sheets for each Special or Hazardous waste

13. **Fueled by tires or tire derived fuel (TDF):**

A. *Check one:* Whole tires, tire derived fuel.

B. *Heating value:* Indicate the heating value of the tires/TDF in Btu/lb or Btu/tire.

Percent of heat supplied by tires/TDF: Indicate the portion of heat input that is provided by the tires/TDF. Tire/TDF are usually co-fired.

C. *Percent sulfur:* Indicate the weight percentage sulfur in the tires/TDF. If no value is indicated, the default value is 2.5%.

Percent chromium: Indicate the weight percentage chromium in the tires/TDF. If no value is indicated the default value is 0.2%.

Percent chlorine: indicate the weight percentage chlorine in the tires/TDF. If no value is indicated, the default value is 0.3%.

D. *Type of combustor:* Indicate the type of equipment in which tires/TDF is combusted (i.e. conventional cement kiln, cyclone, combustor, etc.).

14. **Fueled by solid waste:**

A. *Percent heat supplied by solid waste:* Indicate the amount of heat supplied by the solid waste. Solid waste is sometimes co-fired with other fuels. Do not use this form if the solid waste supplies less than 50% of the heat input. If solid waste supplies less than 50% of the heat input, the device is considered a solid waste incinerator.

B. *Heating value of waste:* Indicate the heating value of the waste. Do not include the heating value of any supplemental fuel used.

C. *Type of combustor:* indicate type of equipment used to burn solid waste (i.e. stoker, waterwall, rotary kiln, etc.).

D. *Special or hazardous waste:* Indicate each special or hazardous waste to be burned.

15. **Emission controls:** For each pollutant, check the applicable line. For incinerators, specify supplementary fuel and heat input rate in Btu/hr.

If any of the fuel combustion units are boilers, fill out this section. This section also applies to any other forms of indicated heating equipment. It is absolutely necessary to complete this section to assure compliance with 326 IAC 6. Indicate the identification, heat input capacity, rate installed, and permit number (or rate of registration letter) that applies to each unit. It will facilitate review of the application if copies of permits and/or registrations that apply to previously installed units are attached. Please note which permit copies apply to which indirect heating units. Use as many additional sheets as necessary. Label additional sheets as FORM PI-02 and include identification information (unit ID, stack ID, segment ID)

Indicate any acceptable fuel consumption limits:
In the case that one or more fuel is burned either intermittently or as a backup. Stating an acceptable limit on fuel consumption at this point will facilitate permit review. If a limit is not stated, it will be assumed that the fuel will be burned at the full rate capacity of the unit for 8760 hours per year.

16. **Potential to Emit:**

Pollutant:	Provide the name of the pollutant if not listed.
Maximum rate:	Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)
Emission Factor:	Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).
Emission Rate:	Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]
Maximum Uncontrolled Emissions:	Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

17. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Storage & Handling of Bulk Material -- FORM PI-03

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

Stack ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

Unit description: Provide a brief description of the unit.

1. **Material Handled or Stored:**
   List each material (coal, sand, lime stone, etc.) that will be utilized in the process.

2. **Method of Handling:**
   This concerns the removal of material from storage by way of dropping, conveyor belts, manually, etc...

3. **Type of Storage:**
   How is the material stored? Indicate whether the material is stock-piled inside or outside a building.

4. **Storage Capacity:**
   The maximum amount of material your silo and/or bin can hold.

5. **Pile Acreage:**
   If you stock-pile your material inside or outside of a building then provide the amount of acreage it covers

6. **Silt Content:**
   Silt content is the fine dirt and sand particles. If you are unable to provide this information please indicate by stating "NA".

7. **Moisture Content Percent by Weight:**
   The moisture content should be determined before wet spray controls. If you are unable to provide this information please indicate by stating "NA".

8. **Maximum throughput:**
   Indicate the maximum amount of material that could be processed through the line.

9. **Dust Control Methods:**
   Indicate the process the dust control is abating and elaborate further on Form FORM CEI-01, MISCELLANEOUS CONTROL INFORMATION. You may want to refer to the Indiana State Rule 326 IAC 6-5-1 Fugitive Particlate Matter Emission Limitations.

10. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x(8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % uncontrolled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

11. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INFORMATION

Asphalt Plants -- FORM PI-04

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also. The use of the Plant ID is acceptable.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Batch:**
Check "batch" if it is a type of aggregate blending, allowing the aggregate to drop from one or more large bins to weigh hoppers. Asphalt is added to the mixture contained in the hoppers. This process enables the operator to control the desired aggregate size.

Continuous:
Check "continuous" if it is a type of aggregate blending in which all aggregate proportioning is done on a volumentric basis into the mixer. This process drops aggregate into a set of small bins which collect and distributes the classified aggregate to the mixer.

Drum-mix:
Check "drum mix" if it is a type of aggregate blending in which all aggregate proportioning is done on a volumentric basis, along with asphalt, into the rotary drum. This process uses proportioning feed controls in place of hot aggregate storage bins, vibrating screens and the mixer.

2. **Is the plant portable?:** Self explanatory

3. a) **Age of plant:** Self explanatory

b) **Plant capacity tons/hour:**
Indicate the maximum amount of process material which your plant can process.

4. a) **Dryer burner fuel(s):**
Indicate the fuel(s) used to create a burn.

b) **Percent usage of each fuel:**
How often and for how long each fuel is used on an annual basis.

5. **Average actual tons produced:**
Indicate the amount of asphalt produced in tons per hour.

6. a) **Raw Material used (list each type):**

What materials are being used such as aggregate, asphalt binder(s), etc.

b) **Amount used under maximum operation tons/hour:**
Indicate how much raw material could be used if the plant is operating at its maximum.

7. **Will emulsified asphalt be used?**
Indicate "yes" or "no" in the correct box. Emulsified asphalt is a mixture of asphalt and water which contains a small amount of an emulsifying agent.

8. **What type of control method will be used for the pug mill?**
Self-explanatory

What is the length of time for the addition of the emulsified asphalt going into the pug mill:
This is needed because of emissions being emitted when the asphalt and water are blended together. Provide the length of time in seconds.

9. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

10. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Brick/Clay Products -- FORM PI-05

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Amount of material dried:**
Indicate the maximum amount of material that can be dried in pounds per hour. Nameplate capacity of dryers.

2. **Amount of material ground:**
Indicate the maximum amount of material that can be ground in pounds per hour. Nameplate capacity of grinding equipment.

3. **Amount of material stored:**
Indicate the maximum amount of material that can be stored on a daily basis in tons per day. The default value is 24 hours output of the amount dried or ground, whichever is larger.

4. **Are raw materials stored inside or outside?**
Indicate "inside" if raw materials are stored in an enclosure that prevents rain or snow from wetting the material. Otherwise indicate "outside".

5. **Material on hand at any given time:**
Indicate the maximum amount of material that is capable of being stored on the site in tons.

6. **Is grinding done inside or outside?**
Indicate "inside" if the grinding equipment is located in an enclosure that prevents rain or snow from wetting the process. Otherwise indicate outside.

7. **Number of kilns operating:**
Indicate the number of kilns to be operated.

8. **Type of kilns:**
Indicate tunnel or periodic (beehive).

9. **Type of fuel the kilns burn:**
Indicate the fuel used in the kilns - coal, coke, distillate oil (indicate grade), residual oil (indicate grade), or natural gas.

10. **Heat rate:**

Indicate the heat rate of the kiln in million Btu per hour.

11. **Length of burn:**

(Periodic kilns only) Indicate the shortest amount of time needed to satisfactorily fire the product in hours.

12. **Emission control:**
Indicate if air pollution emission controls are being used. Typical devices are baghouses, scrubbers, electrostatic precipatators, and afterburners. If the unit has no control equipment, enter "none". If the unit emissions are controlled, enter "yes" and fill out the proper control equipment form for the specified emission control being used (FORMS CE-01 thru CE-05).

13. **Fuel analysis:**
For coal or coke - indicate ash content and sulfur content in weight percentage as consumed. Indicate minimum heating value as consumed. For distillate or residual oil - indicate sulfur content of fuel oil. Default values are:

No.1	Distillate	0.3%	No.5	Residual	2.0%
No.2	Distillate	0.3%	No.6	Residual	2.0%
No.4	Distillate	2.0%			

14. **Fuel analysis:**
For distillate or residual oil indicate heating value of fuel. Default values are:

No.1	Distillate	0.3%
No.2	Distillate	0.3%
No.4	Distillate	2.0%
No.5	Residual	2.0%
No.6	Residual	2.0%

For natural gas no entries are required in this box.

If multiple kilns are used, of varying capacities or fuels, please attach a form for each kiln. You may photocopy FORM PI-05 as much as needed.

15. **Operational Schedule:**
Provide the number of hours/days, days/week, and days/year that the process is operational.

16. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100

- % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

17. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Reciprocating Internal Combustion Engines -- PI-06

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Ignition:**
   Indicate spark ignition with "SI" or compression with "CI".

2. **Output:**
   Indicate the engine's rated net shaft horsepower (HP), or in the case of an engine-driven generator, the kilovolt-amp (KVA) rating of the generator.

3. **Heat input:**
   Indicate the heat input rate, expressed in millions of Btu's per hour, of the engine when operating at rated power.

4. **Fuel:**
   Indicate the fuel(s) used to operate the engine. Use the following initials:
   G for gasoline

   N for Natural gas

   DF for Dual-fuel (Natural gas with up to 6% No. 2 diesel)

   D for Distillate

   R for residual

   L for landfill gas

   O for Others

5. **Emission controls:**
   Indicate any air pollution emission controls used. Use the following codes:
   NO for No controls

   CC for Automotive-Type Catalytic Reduction

   SC for Selective Catalytic Reduction

   DR for Derate

LB for Lean-Burn Mixture (SI engines only)

WI for Water Injection

IR for Ignition Return

6. **Fuels used:**
Amplify on fuel(s) indicated for the engine(s) listed above. Gasoline and natural gas are highly uniform fuels that need no further explanation. For distillates and residual fuels, indicate the grade heating value, and sulfur content (expressed in weight percent). Landfill gas is a highly variable fuel. Submit an analysis of the gas stating heating value, sulfur content and chlorine content as a minimum. Dual fuel refers to the practice of using a small (up to about 6% of heat value) charge of diesel fuel to ignite natural gas in a compression ignition engine. Indicate the distillate percentage (by Btu content) of the fuel mixture. Six percent (6%) No. 2 is the default content. Default sulfur contents for distillate and residual fuels are as follows:

No.1 0.3% No.3 2.0% No.5 2.0%
No.2 0.3% No.4 2.0% No.6 2.0%

If additional sheets are included, please label the additional information FORM PI-06, Internal Combustion.

7. **Duty Cycle:**
Check the appropriate duty cycle.

8. **Acceptable fuel limits:**
If you plan to operate this equipment less than full time, state any annual fuel combustion limits you may wish to accept in order to avoid federal rule applicability.

9. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

10. **Source of Emission Factors:** Provide the source of the emission factors. Sources

include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Gas Turbine Engines -- FORM PI-07

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Usage:**
   What does the turbine drive? Common uses are gas pipeline compressors, and electric power generators. If this turbine drives a ship, locomotive, truck, automobile, or airplane this is a mobile source and therefore not even subject to stationary source review. If the machinery is mounted on a trailer, railcar, barge, or portable skid, it is a stationary source.

2. **Output Rating:**
   Indicate the turbine's rated shaft horsepower or in the case of an electric power generating unit the KVA (Kilovolt-amp).

3. **Heat input rate:**
   Indicate the heat input rate in million Btu per hour when operating at rated power.

4. **Fuel:**
   Indicate the fuel(s) used to operate the turbine. Use the following initials:
   N for Natural Gas

   D for Distillate

   R for Residual

   O for Others - Attach a sheet describing the fuel including composition, heating value, sulfur controlling use, multiple initials if multiple fuels are used.

5. **Emission Controls:**
   Indicate any air pollution emission controls used. Use the following initials:
   NON for No controls

   SI for Steam injection

   WI for Water injection

SCR for Selective catalytic reduction

6. **Fuels Used:**
Amplify on the fuels indicated for the turbine(s) listed above. For distillate and residual fuels, indicate the grade, the heating value and sulfur content of the fuels used. Default sulfur contents are as follows:

No.1 0.3%	No.4 2.0%
No.2 0.3%	No.5 2.0%
No.3 2.0%	No.6 2.0%

If additional information is included that will not fit on this form, label the additional sheets as FORM PI-07, GAS TURBINES and attach to this form.

7. **Duty cycle:**
Check the appropriate duty cycle

8. **Acceptable fuel limits:**
If you plan to operate this equipment less than full time, state any annual fuel consumption limits you may wish to accept in order to avoid Federal Rule applicability.

9. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

10. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Concrete Batchers -- FORM PI-08

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Raw Material:**

Raw material for maximum operation:
The application must supply the tons/hr rate for each of the raw materials used to produce ready mix concrete.

2. **Mixer capacity:**
This information is used to determine whether the application is for a truck mix plant or a central mix plant. (This information is only needed for a central mix plant.)

Amount of concrete produced:
The application must supply the tons/hr rate.

Is this a mobile plant:
The plant will be assumed to be stationary unless answered otherwise.

3. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

4. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Degreasing -- FORM PI-09

A separate page is supplied for the three most common forms of degreasers. Page 1 and 2 applies to cold cleaners only. Page 3 and 4 applies to open top vapor degreasers only. Page 5 and 6 applies to conveyorized degreasers, both vapor phase and liquid phase units. Fill out the forms that apply to your degreasers. Additional space has been included to allow for any additional information needed to fully describe the units. Duplicate blank forms as needed.

Instructions on how to fill out Page 1 & 2: Cold Cleaners

This form applies to cleaners that spray, immerse, or flood the greasy part with a solvent. Manual or mechanical agitation is often part of the process, and despite the name, the solvent may be heated to improve cleaning.

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Solvent used:**
   Indicate the name of the solvent used. Attach a MSDS sheet for the solvent. The solvent will be assumed to be 100% volatile organic compounds unless an analysis of the solvent is also included.

2. **Solvent Density:**
   The density of the solvent in pounds per gallon.

3. **Solvent temperature as used:**
   Indicate the temperature of the solvent when in contact with the parts, expressed in degrees fahrenheit.

4. **Solvent vapor pressure at 100^{o}F:**
   The tested vapor pressure of the solvent measured at 100^{o}F, expressed in pounds per square inch-absolute.

5. **Agitation method:**
   Means by which surface of parts are agitated. Common methods are manual brushing, or wiping, spraying, or mechanical vibration.

6. **Drainage time:**
   The minimum period of time that parts are allowed to drain after cleaning and before removal of parts from cleaner.

7. **VOC emission control method used:**
Method used to mitigate evaporation of solvent

8. **Daily solvent consumption:**
Indicate the volume of solvent added per day, less the volume recycled or disposed of as a liquid, in gallons per day. For new cleaners with no consumption history, data from a similar cleaner may be used. If you cannot provide a valid answer, indicate unknown (UNK) and OAM will estimate cleaner emissions.

9. **Additional Information**
Use this section to provide any additional information concerning the equipment or process.

10. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1-Control Efficiency)]

11. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

Instructions on how to fill out Page 3 & 4: Open Top Degreasers

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-

03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Solvent used:**
   The name of the solvent used. Attach a MSDS sheet for the solvent. The solvent will be assumed to be 100% volatile organic compounds unless a chemical analysis is submitted that indicates otherwise.

2. **Solvent density:**
   The density of the solvent in pounds per gallon

3. **Solvent temperature as used:**
   Temperature of the solvent when in content with parts, in degrees fahrenheit.

4. **Solvent vapor pressure at 100°F:**
   The tested vapor pressure of the solvent measured at 100°F, expressed in pounds per square inch - absolute.

5. **Freeboard ratio:**
   Indicate the freeboard ratio of the degreaser. Freeboard ratio is the ratio of the freeboard height (distance from top of liquid to degreaser rim) to the width of the degreaser. For example, a degreaser is four (4) feet wide by eight (8) feet long by six (6) feet high with a liquid solvent level maintained at a depth of two (2) feet. The freeboard height is: six (6) feet minus two (2) feet equals four (4) feet. The freeboard height (4 feet) divided by the width (4 feet) is 1.00 or 100%.

6. **Condenser operating temperature:**
   Fill in the maximum condenser coolant temperature in degrees fahrenheit.

7. **Maximum work velocity:**
   Indicate the maximum speed that the work will move out of the vapor space, expressed in feet per second.

8. **Degreasing time:**
   The maximum amount of time the work will remain in the vapor space, expressed in seconds.

9. **Drying time:**
   The maximum amount of time the work will be allowed to dry, expressed in seconds.

10. **Material being degreased:**
    All work materials being degreased (ie. steel, aluminum, leather, etc.). If necessary, attach additional sheets.

11. **Exhaust ventilation rate:**
    The exhaust ventilation rate for the degreaser and all other ventilators within fifty (50) feet of the degreaser, expressed in actual cubic feet per minute.

12. **Interface area:**
Indicate the area where liquid solvent contacts the atmosphere, expressed in square feet.

13. **VOC emission control method used:**
Method used to mitigate escape of solvent vapor into the atmosphere.

14. **Daily solvent consumption:**
The maximum volume of solvent added per day, less the volume recycled or disposed of as a liquid, in gallons per day. For new degreasers with no consumption history, data from a similar degreaser may be used. If you cannot provide a valid answer, indicate unknown (UKN) and OAM will estimate cleaner emissions.

15. **Additional Information:**
Use this information to provide any additional information about the equipment or process.

16. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1-Control Efficiency)]

17. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

Instructions on how to fill out Page 5 & 6: Conveyorized Degreasers

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Solvent used:**
Name the solvent used. Attach a MSDS sheet for the solvent. The solvent will be assured to be 100% volatile organic compounds unless a chemical analysis is submitted that indicates otherwise.

2. **Solvent density:**
Indicate the density of the solvent in pounds per gallon.

3. **Solvent phase:**
The phase (liquid or vapor) that the solvent contacts the work.

4. **Solvent temperature as used:**
The temperature of the solvent (either as liquid or vapor) when in contact with the work.

5. **Condenser operating temperature:**
The maximum condenser coolant temperature in degrees fahrenheit.

6. **Conveyor velocity:**
The maximum velocity that work will be conveyed through the conveyor in

feet per minute.

7. **Degreasing zone length:**
   The length of the degreaser where work is in contact with the solvent.

8. **Material being degreased:**
   All work materials being degreased (i.e. steel, aluminum, leather, etc.). If necessary, attach additional sheets.

9. **Exhaust ventilation rate:**
Fill in the exhaust ventilation rate, in actual cubic feet per minute, for the degreaser and all other ventilators with fifty feet of the degreaser.

10. **Maximum tunnel entrance and exit clearance to work being degreased:**
Provide the maximum clearance, in inches, between the tunnel entrance or exit (whichever is larger) and the smallest piece of work that passes through the degreaser. This does not include times no work is entered or exiting the degreaser.

11. **Daily solvent consumption:**
The maximum amount of solvent added per day, less the volume recycled or disposed of as a liquid, in gallons per day. For new degreasers with no consumption history, data from a similar degreaser may be used. If you cannot provide a valid answer indicate unknown (UK) and OAM will estimate degreaser emissions.

12. **Additional Information:**
Use this section to provide any additional information about the equipment or process.

13. **Potential to Emit:**

Pollutant:	Provide the name of the pollutant if not listed.
Maximum rate:	Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)
Emission Factor:	Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).
Emission Rate:	Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]
Maximum Uncontrolled Emissions:	Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]
Pollution Control Efficiency(%):	Provide the control efficiency. Calculate by [(100 - % not controlled)/100]
Maximum Controlled Emissions:	Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

14. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Dry Cleaners -- FORM PI-10

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Type of cleaning solvent used:** The following are just a few examples of cleaning solvents:
   A. Skellysolve S-66
   B. Varsol 3
   C. Valcene
   D. Kwik-Dri
   E. Perchloroethylene

2. **Amount of solvent used:** Self explanatory

3. **Density of Solvent:** Contact your supplier to obtain the density of the solvent.

4. **Amount of solvent sold or disposed of:** Self explanatory

5. **Amount of solvent purchased:**

   Provide the amount of solvent purchased per calendar year in gallons/year.

6. **Operation Schedule:**

   Provide the operation schedule of the equipment. Use the actual (normal) hours that the equipment is in operation.

7. **Type and number of Machine Used:**

   Indicate the type of machine used by entering the number of machines used in the appropriate box.

8. **Maximum amount of clothes dry cleaned:** Self explanatory

9. **Control Equipment used:**

   Indicate whether the unit has a built in carbon adsorber or a refrigerated vapor condenser. If you have transfer machines and will be utilizing room enclosure as a control measure, this should be reported here.

10. **Percent Efficiency of the control equipment:**

For example, the efficiency of the control equipment is 95% thus, you will put 95% in the blank provided on FORM PI-10. Use the appropriate control equipment forms (CE) to expand on the control equipment description and to provide verification for control equipment efficiency.

11. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1-Control Efficiency)]

12. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Foundry Operations -- FORM PI-11

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Melting operations**

Type of furnace & year: Self explanatory

Type of metal melted: Self explanatory

Maximum melt rate of furnace: Provide maximum melt rate in tons of metallics/hour.

Charging system capacity: Provide capacity in tons of metallics/hour.

2. **Pounds/charge** Describe the components of the charge and the pounds of each component per charge.

3. **Cupola Information:** Provide the indicated information about the cupola.

4. Use the table to provide basic information about any controls present and the equipment they control. Appropriate control equipment (CE) forms should be used to expand on control equipment information.

5. Same as #4 for different equipment/operations.

6. **Sand Handled:** Self explanatory

7. **Binders:** Provide the type of binders used and the usage rate per ton of sand.

8. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate:	Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]
Maximum Uncontrolled Emissions:	Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]
Pollution Control Efficiency(%):	Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

9. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Grain Elevators -- FORM PI-12

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Grain variety:**
Indicate the grain being processed and the amount of grain received in bushels per year.

2. **Receiving area:**
Is the receiving area enclosed or open?
State yes or no. Knowing whether the grain is transferred in an open or enclosed area will aid in determining the particulate emissions.

Are hopper emissions controlled?
State yes or no.

If you answered yes, state the type of control:
The type of control may include dead box, cyclone, hood and etc.

3. **Is the grain cleaned?**
State yes or no. Unwanted materials may be removed from the grain by way of shakers, screens, and etc.

4. **Driers: Fill in the appropriate information for "column dryer" or "rack dryer."**

Column dryer: Any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in one or more continuous packed columns between two perforated metal sheets.

Rack dryer: Any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in a cascading flow around rows of baffles (racks).

5. **Specify other drying equipment:**

If neither dryer (column or rack) applies to your process please specify the drying technique used.

6. **List the number of bins or silos and their capacity (in bushels) below:**

Calculate the total storage capacity of the grain elevator.

7. **Check the appropriate handling system.**
(Identify all grain handling operations on FORM GSD-03, FLOW DIAGRAM).

8. **Shipping area:**
Spout:
Indicate whether the grain is transferred by fixed down spout, telescope down spout, dead box, or other means.

Loading:
State whether the grain is transferred to a truck, rail, barge, etc.

9. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

10. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Lime Manufacturing -- FORM PI-13

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Amount of material processed: (lbs/hr)**

   Self explanatory

2. **Amount of material that goes through primary crushers (tons/day)**

   Self explanatory

3. **Amount of material that goes through secondary crushers (tons/day)**

   Self explanatory

4. **Amount of material that goes through tertiary crushers(tons/day)**

   Self explanatory

5. **Calcining:**

   Number of kilns operating - self explanatory

   Type of kilns - self explanatory

   Type of fuel the kilns burn - Identify the type of fuel (fuel oil, waste oil, liquid waste, etc.) the kilns will burn. If more space is needed, use **Additional Information** section or a seperate sheet labeled PI-13, Lime Manufacturing.

   Heat rate (MMBtu/hr) - Provide the heat rate for the fuel being burned in the kiln.

   Length of burn (hours) - self explanatory

   Emission control - Indicate whether or not the unit has emission controls. If so, fill out the proper FORM CE (Control Equipment) and attach to this form.

6. **Fuel analysis:**

   % Ash - Provide the weight percentage ash in the fuel. If not indicated a default

value will be used.

% Sulfur - Provide the weight percentage sulfur in the fuel. If not indicated a default value will be used.

Heating value - Provide the heating value in Btu/lb, Btu/gal, etc.

7. **Amount of lime produced (tons/yr)** - Self explanatory

8. **Additional information** - This section may be used to provide additional information concerning the unit or its operation.

9. **Potential to Emit:**

Pollutant:	Provide the name of the pollutant if not listed.
Maximum rate:	Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)
Emission Factor:	Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).
Emission Rate:	Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]
Maximum Uncontrolled Emissions:	Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]
Pollution Control Efficiency(%)	Provide the control efficiency. Calculate by [(100 - % not controlled)/100]
Maximum Controlled Emissions:	Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

10. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Volatile Organic Liquid Compound Storage -- FORM PI-14

1. **Type of tank:**

Tank ID #: Provide the tank identification number consistent with the identification used on other forms (FORM GSD-03, FLOW DIAGRAM; GSD-06, EMISSIONS UNIT DESCRIPTION; etc.).

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

Check the following that applies or fill in appropriate information:

a. Fixed roof cone tank
b. Fixed roof dome tank
c. Internal floating roof tank
d. External floating roof tank
e. Variable vapor space tank

Indicate whether the tank is above or below ground.

Indicate whether the tank is oriented horizontally or vertically.

Provide the color of the tank.

2. **General Information**

Product stored: Indicate the liquid (and associated vapor) stored in the tanks such as acetone, benzene, jet kerosene, etc.

Control systems: Indicate whether or not control systems are present. If present, enter "yes"; if not, enter "no". Information concerning the control equipment should be indicated on the appropriate control equipment forms (FORM CE-01 thru CE-05). Attach the proper control equipment form to this form.

Efficiency: Indicate the efficiency of the control device.

Method of venting: Such as freely vented, pressure/vacuum vented, rim vented etc.

Submerged filled: Indicate by stating yes or no.

Indicate the following in the units provided:

a. Tank diameter (D) feet
b. Tank height (Hs) feet
c. Tank volume (V) $feet^3$
d. True vapor pressure (PVA), feet and Temperature in fahrenheit
e. Vapor molecular weight (MWv), pounds/pounds-mole

f. Annual throughput gallons/year
h. Maximum liquid height (Hlx) feet.

3. **For external floating roof tanks check if applicable or fill in appropriate information:**

A. Average liquid density (Wl), lb/gal
B. Pontoon floating roof
C. Double deck floating roof

4. **For internal floating roof tanks check if applicable or fill in appropriate information:**

   A. Average liquid density (Wl), lb/gal
   B. Number of column supported fixed roof
   C. Self supported fixed roof
   D. Welded deck
   E. Bolted deck

5. **For variable vapor space tanks check if applicable or fill in appropriate information:**

   A. Volume of liquid pumped into system (V1), bbl/yr
   B. Volume of expansion capacity of system (V2), bbl
   C. Number of transfers into system during the time period corresponds to a throughput or V1 (N2)

6. **Fill in the necessary information required for State and Federal rules**:

   A. Date the tank was constructed or anticipated date of construction
   B. Tank capacity (gallons)

7. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

8. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Portland Cement Manufacturing -- FORM PI-15

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Process:**
   Fill in the appropriate information for each process that is applicable.

2. **Indicate the type of kilns:**
   Indicate the type of kiln for which this form applies by placing a check in the appropriate space.

3. **Dryer:**
   If a dryer <u>is</u> included in the process, indicate by placing a check in this column.

4. **Type of fuel the kiln burns:**
   Indicate whether the fuel is natural gas, coal, oil etc. Default is coal.

5. **Heat input rate**:
   Indicate heat input rate in millions of Btu per hour.

6. **Raw material ground:**
   Indicate the maximum hourly weight of material ground in pounds per hour.

7. **Fuel analysis:**
   Indicate the weight content of ash and sulfur, and the heating value in Btu/lb of the fuel as delivered to the burner. Default values are Ash = 11%, Sulfur = 4.5%, Heating value = 10,000 Btu/lb.

8. **Amount of material dried:**
   Indicate the maximum hourly weight of material dried in pounds per hour.

9. **Additional information:**
   Use this space to provide additional information about the process, equipment, or fuels, if needed.

10. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

11. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Printing Operations -- FORM PI-16

If more than five (5) materials such as inks, glues, fountain solutions, clean up solvents are used in the press or presses, or if more than five (5) presses are being reported, please make multiple copies of the form as necessary.

Printing Operations:

1. Fill out FORM PI-16. This form applies to all printing operations.

2. Send a copy of Material Safety Data Sheets for each ink, glue, fountain solution, thinner, and press cleanup solvent used. As in surface coating operations, you need only send the sections that state the hazardous material contents of these materials.

3. Fill out the "VOC Data Sheets" (Attachment 1) as described below for each ink, glue, or fountain solution used.

4. If your printing operation does not use either the rotogravure or flexographic process, and has a potential VOC emission of over 25 tons per year; the preparation of a "top-down" Best Available Control Technology (BACT) analysis will be required. Print operations other than rotogravure and flexographic operations are subject to 326 IAC 8-1-6 (BACT) if they have the potential to emit more than 25 tons per year. It may be possible to limit operations such that this rule may be avoided.

Filling out "VOC Data Sheets" (Attachment 1):

Step I. "As Supplied" VOC Data Sheets

1. Your coating supplier should be able to supply a properly filled out VOC Data Sheet, as the U.S. EPA requires coating manufacturers to provide this data. If your supplier has provided you properly filled out VOC Data Sheets, skip ahead to Step II. If you have obtained your coating material from an intermediary that cannot supply a filled out VOC Data Sheet, you can fill these sheets yourself.

2. From your Material Safety Data Sheet (MSDS), retrieve the following information:

   a.) Coating Density in pounds per gallon
   This will be called $(D_c)_s$
   b.) Weight Percentage of volatiles - both organic and water
   This will be called $(W_v)_s$
   c.) Weight Percentage of Water
   This will be called $(W_w)_s$

3. Calculate Weight Percentage of organic volatiles - $(W_o)_s$ - using data obtained in step number 2. with following equation:

$$(W_o)_s = (W_v)_s - (W_w)_s$$

4. Calculate Volume Percentage of Water - $(V_w)_s$ - Using the following equation and data obtained in above steps:

$$(V_w)_s = \frac{(W_w)_s \, (D_c)_s}{D_w}$$

where D_w is density of water = 8.33 lb/gal

5. Calculate VOC Content "As Supplied" - $(VOC)_s$ - using data obtained above and the following equation:

$$(VOC)_s = \frac{(W_o)_s\ (D_c)_s}{100\ \%\ -\ (V_w)_s}$$

6. If the coating "As Supplied" does not contain any water, then $(V_w)_s = 0$, therefore:

$$(VOC)_s = (W_o)_s\ (D_c)_s$$

Step II. "As Applied" VOC Data Sheet

1. If you do not "thin" or dilute the coating prior to application, then the VOC content "As Applied" is the same as the VOC content "As Supplied". Simply fill out "as applied" VOC Data Sheet (pages 10 & 11) as:

$$(VOC)_a = (VOC)_s$$

2. If you do "thin" or dilute your coating, the amount of VOC that is emitted may change, so the VOC content must go adjusted accordingly. The following additional data is needed:

Weighted Average Density of Dilution Solvent in lb/gal - (D_d)

$$(D_d) = 3\ f(D_i)\ (\%_i/100)_{\prime\prime}$$

If a coating is diluted with a multiple component "thinner", the density of the dilution solvent is the weighted average density of the component solvents. For example, if a coating were to be diluted with a mixture with three components - 10% solvent A with a density of 6.5 lb/gal, 40% solvent B with a density of 8.33 lb/gal, and solvent C with a density of 7.0 lb/gal; the weighted average density - (D_d) - would be calculated as follows:

Solvent	Weight Percentage		Density lb/gal		Product lb/gal
A	10%	X	6.50	=	0.650
B	40%	X	8.33	=	3.332
C	50%	X	7.00	=	+ 3.500
	100%				
Mixture Weighted Average - (D_d)					7.482 lb/gal

Include water and non-photochemically reactive solvents in this calculation.

3. Calculate dilution ratio - R_d. This is simply the volume ratio of photochemically reactive organic dilution solvent to the "as supplied" coating.

$$R_d = \frac{\text{Volume of Photochemically Reactive Dilution Solvent}}{}$$

Volume of "as supplied coating"

Where:
Volume of Photochemically Reactive Dilution Solvent =
(volume of dilution solvent) (1-(volume % water) - (volume % of non-photochemically reactive organics))

For example, assume that a gallon of "as supplied" coating is thinned with 3 gallons of a mixture that consists of 7 quarts xylene, 2 quarts of 1,1,1 trichloroethane, and 3 quarts water. Therefore:

Volume of Photochemically Reactive Dilution Solvent =
(3 gal) (1-(2 qt/12 qt)-(3 qt/12 qt)) = 1.75 gallons therefore:

R_d = 1.75 gallons Photochemically Reactive Dilution Solvent = R_d = 1.75 for this example
1.00 gallon "as supplied" coating

Note: 1,1,1 trichloroethane is not photochemically reactive. See attached table of non-photochemically reactive organics.

4. Determine Density of coating "as applied" - $(D_c)_a$ - using method described in ASTM D1475-85 in pounds per gallon.

5. Calculate volatile organic content of coating "as applied" - $(W_o)_a$ - using data obtained in previous steps and the following equation:

$$(W_o)_a = \frac{(D_c)_s\ (W_o)_s/100 + (R_d)\ (D_d)\ X\ 100}{(D_c)_s + (R_d)(D_d)}$$

6. Determine Weight Percent Water of "as applied" coating - $(W_w)_a$ - using either ASTM D3792-86 or ASTM D4017-88. These tests should be performed by a suitably equipped laboratory. If no water is present is the dilution solvent, obviously $(W_w)_a = (W_w)_s$, and these tests need not be performed.

7. Calculate Volume Percent Water in coating "as applied" - $(V_w)_a$ - using data obtained in the above steps and the following equation:

$$(V_w)_a = \frac{(W_w)_a (D_c)_a}{D_w}$$ where D_w is density of water, D_w = 8.33 lb/gal

8. Calculate VOC content of "as applied" coating - $(VOC)_a$ - using data obtained in the above steps and the following equation:

$$(VOC)_a = \frac{(W_o)_a\ (D_c)_a}{100\% - (V_w)_a}$$

Alternately, the following equation may be used:

$$(VOC)_a = \frac{[(VOC)_s\ (100\% - (V_w)_s)/100] + [(R_d)(D_d)]}{1 + R_d - [(V_w)_s/100]}$$

Step III. Solids Content of Coating by Volume

1. From the Material Safety Data Sheet (MSDS) or other information from the coating supplier, ascertain the solids content by volume of the coating "as supplied". This figure is referred to as $(V_n)_s$. Enter this figure onto the "as supplied VOC Data Sheet. If the coating is not "thinned" or diluted prior to application , then $(V_n)_s = (V_n)_a$. If such is the case, enter onto the "as applied" VOC Data Sheet, and go on to Step IV.

2. If the coating is "thinned" or diluted prior to application, calculate the Volume Percentage of Solids "as applied" using data obtained in the above steps and the following equation:

$$(V_n)_a = \frac{(V_n)_s}{1 + R_d}$$

EPA Reference Method 24 (40 CFR Part 60, Appendix A), contains the ASTM methods referenced in these instructions.

Step IV. VOC Content per Unit Volume Solids

1. Calculate VOC Content per Unit Volume of Solids - $(VOC)_{as}$ - using data developed using steps described above and the following equation:

$$(VOC)_{as} = \frac{[(VOC)_s\ (100\% - (V_w)_s)/100 + (R_d)(D_d)]}{(V_n)_s/100\%}$$

or alternately:

$$(VOC)_{as} = \frac{(W_o)_a(D_c)_a}{(V_n)_a}$$

Enter this figure on the "as applied" VOC Data Sheet.

Instructions for filling out PI-16.

Press Data:

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Top part - Column 2: 'Press Type'**
Write in the type of press used i.e. rotogravure, flexographic, offset, etc.

2. **Top Part - Column 3: 'Maximum Line Speed'**
Write in the maximum line speed in inches per minute of each press.

3. **Top Part - Column 4: 'Maximum Printing Width'**
Write in the maximum width of substrate that can be printed by each press.

4. **Top Part - Column 5: 'Type of Control Device'**
Write in the type of equipment, controlling the emission of volatiles captured. Common type of control device are carbon adsorbers, thermal incinerators, and catalytic incinerators. If no such device will be installed and operated, write in "none".

5. **Top Part - Column 6:'Percent Captured'**
Write in the percentage of volatiles that are captured during press operations. This figure may be provided by the press manufacturer, but most permits will require verification using EPA Method 25.

6. **Top Part - Column 7: 'Destruction Efficiency'**

Write in the destruction efficiency of the control device.

Material Data:

7. **Bottom Part - Column 8: 'Material'**
Write in a short description of the material, i.e. ink, fountain, solution, etc.

8. **Bottom Part - Column 9: 'Identification Number'**
Write in the identification number or letters assigned to this material by its manufacturer or your organization.

9. **Bottom Part - Column 10: 'Volume % Volatiles'**
Write in the volume fraction of all organics (both photochemically reactive and non-reactive) and of water.

10. **Bottom Part - Column 11: 'Volume % Water'**
Write in $(V_w)_a$ from the "as applied" VOC Data Sheet.

11. **Bottom Part - Column 12: 'Weight % Volatiles'**
Write in the sum of $(W_o)_a$ plus $(W_w)_a$ from the "as applied" VOC Data Sheet.

12. **Bottom Part - Column 13: 'Weight % Water'**
Write in $(W_w)_a$ from the "as applied" VOC Data Sheet.

13. **Bottom Part - Column 14: 'Maximum Coverage'**
Write in the **maximum** amount of the material used in printing in one million square inches. For inks and glues, this is self explanatory. Also, provide such a figure for fountain solution and press wash solvents, even though these materials may not be actually deposited on the substrate. All experienced printers know the rate that fountain solution and press wash solvents are consumed as a function of the amount of substrate printed.

Note:

MSDS should contain the 1. Product Identification section
2. Hazardous Ingredients section
3. Physical Characteristics section

14. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

15. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTION

Sand & Gravel Processes -- FORM PI-17

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Plant Throughput:** Self explanatory

2. **Aggregate Storage Pile Capacity:** Self explanatory

3. **Operating Schedule:** Self explanatory

4. **Dust Control Plan:** Provide a dust control plan incorporating the requested information. If you need to use additional sheets; label the sheets FORM PI-17 and attach to this form.

5. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

6. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering

analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTION

Nonmetallic Mineral Processing -- FORM PI-18

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Plant throughput:** Self explanatory

2. **Fines mill capacity:** Self explanatory

3. **Aggregate storage pile capacity:** Self explanatory

4. **Operating schedule:** Self explanatory

5. **Dust Control:** Provide a dust control plan incorporating the information requested. If more space is needed; use additional sheets, label the sheets FORM PI-18 and attach to this form.

6. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

7. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Surface Coating -- FORM PI-19

Introduction

Of all the Indiana Air Pollution Rules, 326 IAC 8 is the most complex and most often misunderstood. This guide is to ease the process of preparing the permit forms relevant to this rule.

Surface coating in general refers to the application of organic substances to metal, plastic, rubber, wood, paper, or other substrates to enhance the performance of a product. This includes, but certainly is not limited to such things as:

- Paint
- Rustproofing
- Adhesives
- Magnetic Coatings
- Lubricant Coatings
- Powder Coatings
- Stains
- Varnishes and Shellacs

Equipment covered by this rule includes application equipment such as spray booths, flow coaters, and dip tanks; and drying equipment such as air dryers, flash off areas, and curing ovens.

Specifically excluded from surface coating is the degreasing and other surface preparation operations that may be required. Other air pollution rules - beyond the scope of this guide - may apply.

General Procedure:

Surface Coating:

1. Unless you are applying a coating to wood furniture or components of non-upholstered furniture, it is necessary to complete the VOC Data Sheets (Attachment 1) for each coating applied. These forms determine the amount of volatile organic compounds (VOC) that will be emitted into the atmosphere per gallon of coating applied. There are two parts of these forms. One is the "as supplied" forms (Attachment 1). This determines the VOC content of the coating as it is supplied by the coating manufacturer. As many users "thin" or dilute the coatings prior to application, the second part (Attachment 1) determines the VOC content of the coating as it is delivered to the coating applicator. With the exception of the wood furniture coating operations described above, all coating operations subject to 326 IAC 8-2 have VOC emission limits described in terms of pounds of VOC per gallon of coating less water delivered to the applicator.

2. In any case, a surface coating operation will require filling out Form PI-19. These forms use some of the information used in completing the EPA VOC data sheets. These forms allow us to estimate your overall VOC emissions.

3. Send in a copy of Material Safety Data Sheets for each coating, thinner, and cleanup solvent used in the coating operation. You need only send the sections that state the hazardous material contents of these materials.

*4. Indicate clearly what you are surface coating and material utilized to produced the product.

Filling out "VOC Data Sheets" (Attachment 1):

Step I. "As Supplied" VOC Data Sheets

1. Your coating supplier should be able to supply a properly filled out EPA VOC Data Sheet, as the U.S. EPA requires coating manufacturers to provide this data. If your supplier has provided you properly filled out EPA VOC Data Sheets, skip ahead to Step II. If you have obtained your coating material from an intermediary that cannot supply a filled out EPA VOC Data Sheet, you can fill these sheets yourself.

2. From your Material Safety Data Sheet (MSDS), retrieve the following information:

   a.) Coating Density in pounds per gallon
   This will be called $(D_c)_s$
   b.) Weight Percentage of volatiles - both organic and water
   This will be called $(W_v)_s$
   c.) Weight Percentage of Water
   This will be called $(W_w)_s$

3. Calculate Weight Percentage of organic volatiles - $(W_o)_s$ - using data obtained in step number 2. with following equation:

$$(W_o)_s = (W_v)_s - (W_w)_s$$

4. Calculate Volume Percentage of Water - $(V_w)_s$ - Using the following equation and data obtained in above steps:

$$(V_w)_s = \frac{(W_w)_s\,(D_c)_s}{D_w}$$

where D_w is density of water = 8.33 lb/gal

5. Calculate VOC Content "As Supplied" - $(VOC)_s$ - using data obtained above and the following equation:

$$(VOC)_s = \frac{(W_o)_s\,(D_c)_s}{100\ \% - (V_w)_s}$$

6. If the coating "As Supplied" does not contain any water, then $(V_w)_s = 0$, therefore:

$$(VOC)_s = (W_o)_s\,(D_c)_s$$

Step II. "As Applied" VOC Data Sheet

1. If you do not "thin" or dilute the coating prior to application, then the VOC content "As Applied" is the same as the VOC content "As Supplied". Simply fill out "as applied" VOC Data Sheet as:

$$(VOC)_a = (VOC)_s$$

2. If you do "thin" or dilute your coating, the amount of VOC that is emitted may change, so the VOC content must go adjusted accordingly. The following additional data is needed:

   Weighted Average Density of Dilution Solvent in lb/gal - (D_d)

   $$(D_d) = \sum (D_i)\ (\%_i/100)$$

If a coating is diluted with a multiple component "thinner", the density of the dilution solvent is the weighted average density of the component solvents. For example, if a coating were to be diluted with a mixture with three components - 10% solvent A with a density of 6.5 lb/gal, 40% solvent B with a density of 8.33 lb/gal, and solvent C with a density of 7.0 lb/gal; the weighted average density - (D_d) - would be calculated as follows:

Solvent	Weight Percentage		Density lb/gal		Product lb/gal
A	10%	X	6.50	=	0.650
B	40%	X	8.33	=	3.332
C	50%	X	7.00	=	+3.500
	100%				
Mixture Weighted Average - (D_d)					7.482 lb/gal

Include water and non-photochemically reactive solvents in this calculation.

3. Calculate dilution ratio - R_d. This is simply the volume ratio of photochemically reactive organic dilution solvent to the "as supplied" coating.

   $$R_d = \frac{\text{Volume of Photochemically Reactive Dilution Solvent}}{\text{Volume of "as supplied coating"}}$$

Where:
Volume of Photochemically Reactive Dilution Solvent =
(volume of dilution solvent) (1-(volume % water) - (volume % of non-photochemically reactive organics))

For example, assume that a gallon of "as supplied" coating is thinned with 3 gallons of a mixture that consists of 7 quarts xylene, 2 quarts of 1,1,1 trichloroethane, and 3 quarts water. Therefore:

Volume of Photochemically Reactive Dilution Solvent =

(3 gal) (1-(2 qt/12 qt)-(3 qt/12 qt)) = 1.75 gallons therefore:

R_d = 1.75 gallons Photochemically Reactive Dilution Solvent / 1.00 gallon "as supplied" coating = R_d = 1.75 for this example

Note: 1,1,1 trichloroethane is not photochemically reactive. See attached table of non-photochemically reactive organics.

4. Determine Density of coating "as applied" - $(D_c)_a$ - using method described in ASTM D1475-85 in pounds per gallon.

5. Calculate volatile organic content of coating "as applied" - $(W_o)_a$ - using data obtained in previous steps and the following equation:

$$(W_o)_a = \frac{(D_c)_s\ (W_o)_s/100 + (R_d)\ (D_d)\ X\ 100}{(D_c)_s + (R_d)(D_d)}$$

6. Determine Weight Percent Water of "as applied" coating - $(W_w)_a$ - using either ASTM D3792-86 or ASTM D4017-88. These tests should be performed by a suitably equipped laboratory. If no water is present is the dilution solvent, obviously $(W_w)_a = (W_w)_s$, and these tests need not be performed.

7. Calculate Volume Percent Water in coating "as applied" - $(V_w)_a$ - using data obtained in the above steps and the following equation:

$$(V_w)_a = \frac{(W_w)_a (D_c)_a}{D_w}$$ where D_w is density of water, D_w = 8.33 lb/gal

8. Calculate VOC content of "as applied" coating - $(VOC)_a$ - using data obtained in the above steps and the following equation:

$$(VOC)_a = \frac{(W_o)_a\ (D_c)_a}{100\% - (V_w)_a}$$

Alternately, the following equation may be used:

$$(VOC)_a = \frac{[(VOC)_s\ (100\% - (V_w)_s)/100] + [(R_d)(D_d)]}{1 + R_d - [(V_w)_s/100]}$$

Step III. Solids Content of Coating by Volume

1. From the Material Safety Data Sheet (MSDS) or other information from the coating supplier, ascertain the solids content by volume of the coating "as supplied". This figure is referred to as $(V_n)_s$. Enter this figure onto the "as supplied VOC Data Sheet. If the coating is not "thinned" or diluted prior to application , then $(V_n)_s = (V_n)_a$. If such is the case, enter onto the "as applied" VOC Data Sheet, and go on to Step IV.

2. If the coating is "thinned" or diluted prior to application, calculate the Volume Percentage of Solids "as applied" using data obtained in the above steps and the following equation:

$$(V_n)_a = \frac{(V_n)_s}{1 + R_d}$$

Step IV. VOC Content per Unit Volume Solids

1. Calculate VOC Content per Unit Volume of Solids - $(VOC)_{as}$ - using data developed using steps described above and the following equation:

$$(VOC)_{as} = \frac{[(VOC)_s\ (100\% - (V_w)_s)/100 + (R_d)(D_d)]}{(V_n)_s/100\%}$$

or alternately:

$$(VOC)_{as} = \frac{(W_o)_a(D_c)_a}{(V_n)_a}$$

Enter this figure on the "as applied" VOC Data Sheet.

EPA Reference Method 24 (40 CFR Part 60, Appendix A), contains the ASTM methods referenced in these instructions.

How to Fill out FORM PI-19, Page 1:

1. Make a separate copy for each coating booth or area.
   Include the following for each separate copy:
   Check what is applicable:

A.	Is the coating "as supplied" - out of the can?	
B.	Is the coating "polymeric"?	
C.	Is the coating "thinned" or "diluted"?	
	a.	What is the thinner?
	b.	Provide the ratio.
	c.	Assume 100% flash off of VOC.
D.	Is the coating "multipart"?	
	a.	What are the parts?
	b.	Provide the ratio?
	c.	Indicate the flash off. If the flash-off is unknown we will assume 100%.

2. **Column 1:**
   Please provide the process or booth I.D. number(s). This should be consistent with the layout's identification numbers.

3. **Column 2:**
   Write in proprietary name of each coating and cleaning solvent used in the device or area.

4. **Column 3:**
   Write in the "as applied" density - $(D_c)_a$ from the "as applied" VOC Data Sheet for each coating and cleaning solvent used.

5. **Column 4:**
   Write in the weight percent of organic volatiles and water - the sum of $(W_w)_a$ plus $(W_o)_a$ from the "as applied" VOC Data Sheet for each coating and cleaning solvent used.

6. **Column 5:**
   Write in the weight percent of water - from the "as applied" VOC Data Sheet for each coating and cleaning solvent used.$(W_w)_a$

7. **Column 6:**
   Write in the volume percent of water - $(V_w)_a$ from the "as applied" VOC Data Sheet for each coating and cleaning solvent used.

8. **Column 7:**

Write in the volume percentage solids - $(V_n)_a$ from the "as applied" VOC Data Sheet for each coating and cleaning solvent used.

9. **Column 8:**
Write in the number of guns that are used when coating.

10. **Column 9:**
Write in the orifice size of the gun nozzle.

11. **Column 10:**
Write in the pressure in pounds per square inch (lbs/in^2) of the material at the nozzle.

12. **Column 11:**
Write in the gallons of material used per unit if application method is roll-on, dipping, brushing, or electrostatic coating.

13. **Column 12:**
Write in the maximum number of units per hour.

14. **Column 13:**
It is important to indicate what product you are coating such as car doors, screens, lamps, etc. Also, include whether the product's material is metal, plastic, fiberglass, etc. (Refer to 326 IAC Article 8 Volatile Organic Compounds)

How to Fill out FORM PI-19, Page 2:

1. Application Method:
Write in either dipping, spraying, flow coating, roll coating, brushing, wiping, or other description of coating application process.

2. If sprayed, specify type:
If "spraying" (the response in the above row) write in either air atomization, airless, electrostatic disc, electrostatic airless, electrostatic air atomized, low pressure air atomization, low pressure high volume, airless air assist, or other as applicable. If "spraying" was not the response in the row above, write in "NA".

3. Type of Overspray Controls:
Write in the type of particulate matter control device used. Common types are baffle plates, dry filters, and water curtains.

4. Control Efficiency:
Write in the efficiency in controlling particulate emission claimed by the equipment manufacturer. Maximum expected particulate control efficiencies run in the range of 50% to 98% as a general rule. Please note that all these type of control devices do not control emission of volatile organic compounds.

5. Type of Hydrocarbon Controls:
   Write in the type of device or system used to control emission of volatile organic compounds. Common control technologies are carbon adsorbers, thermal incineration, and catalytic incineration.

6. Control Efficiency below Type of Hydrocarbon Controls:
   Write in the overall efficiency in controlling emissions of volatile organic compounds claimed by the equipment manufacturer. Common values for destruction efficiencies for adsorption and incineration systems are 50% to 90%. As overall control efficiency is the product of capture efficiency times destruction efficiency, for any claims of control efficiency in excess of 75%, please include descriptions of capture systems, including prints of drawings.

The following are self explanatory and absolutely necessary.

7. Stack Height:

8. Stack Diameter:

9. Exhaust Flow Rate:

10. Exhaust Discharge Temperature:

11. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

12. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Woodworking/Plastic Machining -- FORM PI-20

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Materials Machined:**

   Indicate all materials being machined. For plastics indicate the polymer (i.e. ABS, PUC, Kevlar).

2. **Machining equipment description:**

   Provide a description of machine capacity (i.e. 10 inch table saw, SHP planer, etc.). Use additional sheets if necessary.

3. **Grain loading from the pneumatic conveyor outlet:** self explanatory.

4. **What is maximum air flow?** Provide the maximum air flow of the equipment is actual cubic feet per minute (acfm).

5. **What is the normal air flow?** Provide the air flow under normal operating conditions in actual cubic feet per minute (acfm).

6. **Additional information:** Use this section to provide additional information about the process, equipment, etc.

7. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

8. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

On-Site Soil Remediation -- FORM PI-21

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Site:**

Total organic contamination:
Indicate the estimated total amount of organic contaminants expect to be removed.

Estimated remediation time:
Indicate the time interval that the remediation is expected to operate expressed in days.

Air pollution emission controls:
Check the box that describes the device(s) you propose to avoid conversion of soil contamination to air pollution.

2. **Air stripping of groundwater:**

Water flow:
Indicate the maximum rated water flow rate of the stripper in gallons per minute.

Pump voltage:
Indicate the nominal pump motor voltage.

Pump current:
Indicate the rated running current of the pump motor in amperes.

Air flow:
Indicate the maximum air flow rate of the stripper in actual cubic feet per minute.

Fan voltage:
Indicate the nominal fan motor voltage.

Fan current:
Indicate the rated running current of the fan motor in amperes.

Note: If internal combustion is used to drive the pump and/or fan instead of electric motors, attach a sheet stating fuel used, and maximum heat input rate in Btu per hour of engines used.

Table:

Chemical name:
Indicate the chemical name and CAS number of each groundwater contaminant identified in the test well.

Concentration:
Indicate the concentration of each contaminant identified in the test well in parts per million.

3. **Air sparging or bioremediation:**

Air flow:
Indicate the maximum air flow rate through the system in actual cubic feet per minute.

Blower voltage:
Indicate the normal power motor voltage.

Blower current:
Indicate the rated running current of the blower motor in amperes.

Table:

Chemical name:
Indicate the chemical name and CAS number of each soil contaminant expected.

Concentration:
Indicate the concentration of each contaminant expected in the exhaust air stream in parts per million.

4. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

5. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Fugitive Emissions/Vehicle Traffic -- FORM PI-22

Fugitive ID: Provide the fugitive identification number assigned when completing FORM GSD-05, FUGITIVE EMISSIONS DESCRIPTION. This number corresponds to the point number also.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. Plant roads: Self explanatory

2. Type of vehicle: Self explanatory

3. Dust Control: Provide a dust control plan incorporating the information requested. If additional space is needed; use additional sheets, label the additional sheets PI-22 and attach to this form.

4. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

5. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Pneumatic Blasting -- FORM PI-23

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Identification of blasting equipment:**

   Indicate the name or number that identifies this equipment in the plant. If multiple pieces of blast equipment are used, they must be documented separately.

2. **For each different blast media used in the blast equipment, supply the following data:**

   Media: Indicate the media used (i.e. sand, walnut shells, steel shot, etc.).

   Media Density: List the density in pounds per cubic foot of each media identified.

   Nozzle I.D.: Indicate the internal diameter of the blast nozzle in inches. If several nozzles are used, indicate the largest one used.

   Nozzle Pressure: Indicate the nozzle pressure in pounds per square inch (gauge). If a range of pressures used, indicate the highest pressure.

3. **Particulate control device type:** Indicate the type of particulate control/media recycling unit used (i.e. baghouse, cyclone etc.).

   Particulate control device identification: Indicate the number or identification by which the device is known in the plant. This identification must correspond to the identification used on FORM CE-01.

   Particulate control device grain loading: The particulate loading of the output and input gas stream in grains per dry standard cubic foot (gr/dscf) or pounds per dry standard cubic foot (lb/dscf), etc. Specify the units.

4. **What is maximum air flow?** Provide the maximum air flow of the equipment is actual cubic feet per minute (acfm).

5. **What is the normal air flow?** Provide the air flow under normal operating conditions in actual cubic feet per minute (acfm).

6. **Is the blasting open or enclosed?** Please indicate open or enclosed.

7. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

8. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Reinforced Plastics/Composites -- FORM PI-24

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. Products Produced: Identify the products produced from this process.

2. Table: Complete for each component fabricated (duplicate as necessary)

3. Material: Identify the material used in the process (i.e., fiberglass, kevlar, ABS, carbon fiber composite.

4. Process: Identify the process. Use the following codes for common processes:
   - H/SL - hand or spray layup
   - CL - continuous lamination
   - P - pultrusion
   - FW - filament winding
   - MC - marble casting
   - CDM - closed-die molding
   - O - other, specify under Additional comments

5. Resin or Gel coat: Indicate whether resin (reinforced layer) or gel coat (fiber-free layer) is being applied. Use R for resin and GC for gel coat. If a component receives both types, complete a line for both resin and gel coat.

6. Component: Submit a short description of the part and whether or not the part has subcomponents (i.e., truck cap, boat hull, etc.). Use additional comments if more space is needed.

7. Weight % monomer: Indicate the weight percentage of the monomer in the "resin" portion. The contents of the "catalyst" or "hardener" are assumed to be polymerized in the plastic.

8. Density lb/gal: Provide the density in pounds/gallon of the "resin" portion only.

9. Usage gal/part: Provide the usage rate in gallons per part produced. Fill out a line for each material resin or gel coat applied.

10. Production rate parts/hr: Provide the production rate of the process.

11. Release agent lb/part: Provide the release agent usage in pounds release agent per part produced. Attach a copy of the MSDS for the release agent.

12. Clean up solvent lb/part: Provide the amount of clean up solvent used per part produced. If multiple parts are produced between cleanups, use an average.

13. Degreaser lb/part: Provide the amount of degreaser used per part produced.

14. **Volatile organic compound content:** (Attach MSDS and VOC data sheets)

Release agent %: Provide the percent by weight of volatile organic compounds in the release agent.

Cleanup solvent %: Provide the percent by weight of volatile organic compounds in the cleanup solvent.

Degreaser %: Provide the percent by weight of volatile organic compounds in degreaser.

15. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

16. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

17. **Additional comments:** Use this space to provide additional information or to expand on requested information.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Welding/Cutting of Metal -- FORM PI-25

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Process Identification:**
Check the process which is used at the facility in the application. Check both processes if both are present.

2. **Welding:** Note: For Enhanced NSR construction applications, do not include any other type of welding or stations that have been previously permitted.

A. **Submerged Arc:**

a. *Number of welding stations*
Fill in the number of submerged arc welding stations included in this application.

b. *Type of electrode used*
Fill in the classification of the weld wire, or alternately, the diameter and composition of the wire. Include the percentage of manganese, nickel, chromium, cadmium, and cobalt in the wire.

c. *Maximum Hourly Electrode Consumption per Station*
Fill in the maximum weight of wire that can be consumed in an hour by the welding stations. If the welding stations have varying capacities, copy this form and fill out the capacity of each station.

B. **Metal Inert Gas (MIG):**

a. *Number of welding stations*
Fill in the number of MIG welding stations included in this application.

b. *Type of electrode used*
Fill in the classification of the weld wire, or alternately, the diameter and composition of the wire. Include the percentage of manganese, nickel, chromium, cadmium, and cobalt in the wire.

c. *Maximum Hourly Electrode Consumption per Station*
Fill in the maximum weight of wire that can be consumed in an hour by the welding stations. If the welding stations have varying capacities, copy this form and fill out the capacity of each station.

C. **Stick Welding:**

a. *Number of welding stations*
Fill in the number of stick welding stations included in this application.

b. *Type of electrode used*
Fill in the classification of the electrodes for example, E6010.

c. *Number of electrodes*
Fill in the number of electrodes per hour at the maximum rate.

d. *Weight of electrodes*
Fill in the heaviest electrodes being utilized.

D. **Tungsten Inert Gas (TIG):**

a. *Number of welding stations*
Fill in the number of TIG welding stations included in this application.

b. *Maximum Hourly Amount of metal melted per Station*
Fill in the maximum base metal melted per station expressed in pounds per hour. This can be calculated by multiplying width of bead by penetration by line speed by density of metal.

E. **Oxyacetylene Welding:**

a. *Number of welding stations*
Fill in the number of oxyacetylene welding stations included in this application.

b. *Maximum Hourly Amount of metal melted per Station*
Fill in the maximum deposition metal melted per station expressed in pounds per hour. This can be calculated by multiplying the width of bead by penetration by the line speed by the density of metal.

3. **Cutting:**

A. *Check type of flame-cutting:*
Check the type or types used at the facility referenced in the application. If multiple types are utilized check as necessary. If a process other than oxyacetylene or oxymethane is used for flame-cutting, please describe the process.

B. *State Maximum Metal Thickness Cut: inches*
Self-explanatory. It is very important to state the maximum thickness cut as this will be specified on the permit that is issued as a result of this application.

C. *State Maximum Metal Cutting Rate: inches per minute*
Self-explanatory. It is very important to state the maximum cutting rate as this will be specified on the permit that is issued as a result of this application.

4. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

5. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Miscellaneous Processes -- FORM PI-26

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Unit Description:** Provide a brief description of the emissions unit. If known provide the SCC # associated with the unit.

2. **Emission Control Status:** Indicate whether the process emissions are controlled or uncontrolled by checking the appropriate box. If the process has emission control equipment, you must fill out the proper CONTROL EQUIPMENT FORM, FORMS CE-01 - CE-05.

3. **Date of Construction or last modification:** self explanatory.

4. **Operation schedule:** Indicate the normal operational schedule of the process.

5. **Process Description:** Provide a brief description of the process, including types of operations involved, end product of the process and use of product. Attach a flow diagram of the process, identifying major pieces of equipment; pickup points for dusts, fumes, and vapors; control and collection devices; exhaust stack/vents; entry points of raw materials; and exit point of product. Indicate if process is batch or continuous.

6. **Raw Material Usage:** List all of the materials put into the process and the average and maximum amounts used. Units should be expressed in pounds/hour or tons/hour. This is the process weight rate. List any solvents, additives, cleaners, etc. (in gallons per hour or gallons/year) used in the process. If the process produces more than one product, include a list of the raw materials used to produce each product. Describe any storage and materials handling processes. If no raw materials used, enter "N/A" in each field.

7. **Finished Products:** List the types of finished products and the average and maximum amount produced. Describe any storage and material handling processes. If no finished products, enter "N/A".

8. **Process Fuel Usage:** List all of the fuels that the process uses or is capable of using. Provide the maximum heat input capacity for the fuel

burner for the process. Provide an analysis of the fuel used, including at a minimum heat content, sulfur content, and density. Coal, residual (#5 and #6) oils, sludge, waste oils, refuse derived fuels, etc. will require the submittal of an analysis of hazardous contaminants. Attach all analyses to this form and label, FORM PI-26, MISCELLANEOUS PROCESS. If no fuel is used, enter "N/A".

9. **Fugitive Emissions:** Provide a brief description of fugitive emissions associated with the process. Include size of storage piles, material stored, length of roads, and any control measures used. Attach and label detailed information as appropriate.

10. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

11. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Fugitive VOC/HAP Emissions -- FORM PI-27

Fugitive ID: Provide the fugitive identification number assigned when completing FORM GSD-05, FUGITIVE EMISSIONS DESCRIPTION. This number corresponds to the point number also.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. Fugitive sources: Some sources of fugitive emissions have been identified. If there are others, list them under Other.

2. Emission Factors: Fill in the appropriate emissions factor (see Table PI-27). If you are using a different emission factor based on other information, you must provide the source of the emission factor and any necessary documentation to support the use of the emission factor.

3. Number of Leaks: Fill in the number of leaks.

4. Uncontrolled Emissions: To calculate, use [Emission Factor x number of leaks].

5. Maximum Uncontrolled Emissions: To calculate, use [Uncontrolled emissions x 8760 hours x 0.0005 ton/lb].

Table PI-27

AVERAGE EMISSION FACTORS FOR FUGITIVE EMISSIONS

Equipment	Service	Emission Factor (lb/hr)
Valves	Gas	0.012
	Light Liquid	0.016
	Heavy Liquid	0.0005
Pump Seals	Light Liquid	0.109
	Heavy Liquid	0.047
Compressor Seals	Gas/Vapor	0.502
Pressure Relief Seals	Gas/Vapor	0.229
Flanges	All	0.0018

Open-Ended Lines	All	0.0037
Sampling Connections	All	0.033

Reference: Protocols for Generating Unit Specific Emission Estimates for Equipment Leaks of VOC or VHAP, EPA-450/3-88-010.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Mechanical Blasting -- FORM PI-28

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Description of blasting equipment:**

   Provide a brief description of this equipment (model name, equipment type, etc,). If multiple pieces of blast equipment are used, they must be documented separately.

2. **For each different blast media used in the blast equipment, supply the following data:**

   Media: Indicate the media used (i.e. sand, walnut shells, steel shot, etc.).

   Media Density: List the density in pounds per cubic foot of each media identified.

   Nozzle I.D.: Indicate the internal diameter of the blast nozzle in inches. If several nozzles are used, indicate the largest one used.

   Nozzle Pressure: Indicate the nozzle pressure in pounds per square inch (gauge). If a range of pressures used, indicate the highest pressure.

3. **Particulate control device type:** Indicate the type of particulate control/media recycling unit used (i.e. baghouse, cyclone etc.).

   Particulate control device identification: Indicate the number or identification by which the device is known in the plant. This identification must correspond to the identification used on FORM CE-01.

   Particulate control device grain loading: The particulate loading of the output and input gas stream in grains per dry standard cubic foot (gr/dscf) or pounds per dry standard cubic foot, etc.

4. **What is maximum air flow?** Provide the maximum air flow of the equipment is actual cubic feet per minute (acfm).

5. **What is the normal air flow?** Provide the air flow under normal operating

conditions in actual cubic feet per minute (acfm).

6. **Is the blasting open or enclosed?** Please indicate open or enclosed.

7. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year. Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

8. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Electroplating Operations -- FORM PI-29

Unit ID: Provide the unit (facility) identification number assigned to the unit when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION. This number corresponds to the point number also.

S/V ID: Provide the stack identification number assigned when completing FORM GSD-03, PLANT LAYOUT and FORM GSD-06, EMISSION UNIT DESCRIPTION.

Segment ID: Provide the segment identification assigned with IDEM Plant Emissions Inventory.

SCC #: Provide the Source Classification Code for the unit(point) or segment.

1. **Type of Plating:** Check the appropriate type of plating.

2. **List solutions or chemicals:** Provide the names of the chemicals used in the plating process and which are used in the calculation of item #5.

3. **Max. Possible Hourly Usage Rate:** For the solutions/chemicals listed in #4, calculate the hourly usage rate by using the method: [Hourly Usage Rate = Usage/actual hours](e.g. If the usage rate for zinc plating is 3800 lb/yr of sodium sulfate acid and the actual hours of operation that year was 6240, then the hourly usage rate is 3800 lb/yr/6240 hr/yr = 0.61 lb/hr.

4. **Potential to Emit:**

Pollutant: Provide the name of the pollutant if not listed.

Maximum rate: Provide the maximum production or operating rate (units/hr, ton/hr, gal/hr, cf/hr, etc.)

Emission Factor: Provide the appropriate emission factor (lb/units, lbs/ton, lbs/gal, lbs/cf, etc.).

Emission Rate: Provide the emission rate in lb/hr. Calculate by [Emission Rate = Max. Rate x Emission Factor]

Maximum Uncontrolled Emissions: Provide the maximum uncontrolled emissions in tons/year. Calculate by [Max. Uncontrolled Emissions = Emission Rate x (8760 hours/year x 0.0005 ton/lb)]

Pollution Control Efficiency(%): Provide the control efficiency. Calculate by [(100 - % not controlled)/100]

Maximum Controlled Emissions: Provide the maximum controlled emissions in tons/year.

Calculate by [Maximum Controlled Emissions = Maximum Uncontrolled Emissions x (1- Control Efficiency)]

5. **Source of Emission Factors:** Provide the source of the emission factors. Sources include EPA's AP-42, stack test data, engineering analysis.

6. **Actual Emission Rate (lb/hr):** Calculate the actual release rate by using this method: [Actual Emission Rate = Hourly Emission Rate x percent air-borne contaminants released] (e.g. If the hourly emission rate is 0.61 lb/hr and the air-borne contaminants released is 0.5% (ref. Electroplating Engineering Handbook), then the Actual Release Rate = 0.61 lb/hr x 0.005 = 0.003 lb/hr released)

7. **Type of Pollution Control:** Provide the type of pollution control present. A Control Equipment (CE) form must be completed to describe the control equipment and attached to this form.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Particulate Control Equipment -- FORM CE-01

It is in your best interest to check for consistency and completeness throughout the forms to eliminate the chance of having your application **halted** or **delayed.** FORM CE-01 is just one of three options to determine potential emissions. The first option (preferred by OAM) is stack data, second option is emission factor(s), obtained from AP-42, or the third option is grain loading. If the source or facility is located in one of the ten counties mentioned below then the grain loading is **required**. Refusal to provide the information from one of the three options will lead to a **denial** of your application.

1. Dearborn county
2. Dubois County
3. Lake County
4. Marion County
5. Vigo County
6. Wayne County
7. Howard County
8. Vanderburgh County
9. Clark County
10. St. Joseph County

Unit ID: Provide the unit (facility) identification for the unit that this control equipment is associated with. This identification should be consistent with other forms (FORM GSD-03, FLOW DIAGRAM; GSD-06, EMISSIONS UNIT DESCRIPTION).

S/V ID: Provide the stack or vent identification through which the unit exhausts.

1. **Additional information must be completed:**
   It is important to provide the Particulate Gas or Air Flow Rate, Grain Loading, and Collection Efficiency in order to derive potential emissions before and after the control device. The manufacturer of the pollution control device can provide the information. If the information is not provided then the application process **will be delayed.**

2. **Cyclone:**
   Additionally, please indicate the average particulate size, number of tubes and tube diameter.

3. **Baghouse:**
   Provide the type of fabric material. Also, please indicate the Total Filter Area and Air to Cloth Ratio. The reason for the pressure drop across the baghouse is to indicate whether the baghouse is doing its job by presenting the minimum pressure drop that can occur without sacrificing efficiency. The manufacturer should be able to supply this information.

4. **Electrostatic Precipitator (ESP):**
   Please complete all applicable portions of the form.

5. **Wet collectors:**
   If you are unable to provide the requested information call the manufacturer to obtain the information.

6. **Other control devices:**
   Provide a list of particulate control devices not listed on the application form. Provide calculations, test data, and/or drawings to support control efficiencies.

Additional information should be labeled FORM CE-01, PARTICULATE CONTROL EQUIPMENT and attached to this form.

7. **Preventative Maintenance Plan**

Provide a preventative maintenance plan for the control equipment described in this application form. Label the attachment FORM CE-01, PARTICULATE CONTROL EQUIPMENT PMP.

Note: The actual efficiency of the control equipment must be provided for each control equipment used. Do not total, average or take the highest efficiency from the control equipments being utilized.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Thermal/Catalytic Oxidizers -- FORM CE-02

Unit ID: Provide the unit (facility) identification for which emissions the control equipment will control.

S/V ID: Provide the stack or vent identification for the stack/vent that exhausts from the unit above.

Device Identification: Provide the identification number of the control equipment consistent with other forms (FORM GSD-02, PLANT LAYOUT; GSD-03, FLOW DIAGRAM; ETC.)

1a. **Manufacturer:** Provide the name of the manufacturer of the control equipment.

1b. **Model #:** Provide the manufacturer's model number.

2. **Will contaminated air stream support combustion?:** Indicate whether or not the air stream will support combustion by checking yes or no.

3. Supplementary fuel used: Provide the type of supplementary fuel to be used.

4. Supplementary fuel heat input rate (MMBtu/hr): Provide the heat input rate in MMBtu/hr for the supplementary fuel.

5. Total heat input capacity (MMBtu/hr): Provide the total heat input capacity in MMBtu/hr for the device.

6. **Oxidizer type:** Check the appropriate type of oxidizer for which this form applies.

7. Oxidizing zone minimum temperature (EF): self explanatory

8. Gas residence time in Oxidizing zone (seconds): self explanatory

9. Contaminated air stream flow rate (acfm): self explanatory

10. Estimated catalyst life (months) CATALYTIC ONLY: For catalytic oxidizers only, provide the estimated life of catalyst in months.

11. **Preventative Maintenance Plan:** Provide a Preventative Maintenance Plan for the oxidizer. Use this form as a checklist of required information. After completion, label the maintenance plan as CE-02, OXIDIZER PMP; and attach to this form.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Adsorbers -- FORM CE-03

1. **Unit ID:**
   Provide the unit (facility) identification number. If the adsorber controls more than one unit, list additional units to be controlled.

2. **S/V ID:**
   Provide the stack or vent identification number associated with the adsorber.

3. **Control Device ID:**
   Provide the control equipment identification number consistent with other forms (FORM GSD-02, PLANT LAYOUT; GSD-03, FLOW DIAGRAM; ETC.)

4. **Monitoring methods:**
   The air pollution control equipment must be monitored. Indicate the type of monitoring to be used.

5. **Monitoring frequency:**
   Provide the frequency the monitoring will occur (e.g., daily, weekly, monthly, etc.).

6. **Manufacturer**:
   Provide the manufacturer's name.

7. **Model #**:
   Provide the adsorber model number.

8. **Installation Date**:
   Provide the date the adsorber was installed.

9. **Adsorber Description**
   Indicate the type of bed by checking Fixed Bed, Moving Bed, or Fluidized Bed.

   For adsorbers with multiple beds, indicate the number of beds present.

   Provide the frequency for regenerating bed material.

   Adsorption Medium -- Provide the chemical composition of the bed material.

   Frequency of Medium Replacement -- Provide the frequency for replacing the adsorber medium

10. **Pollutant and Control Efficiency - Expected Maximum**
    Indicate what pollutants will be controlled and the capture efficiency of the adsorber. The method to determine efficiency must also be included. Indicate if the method was a stack test (include date of test) or manufacturer's data.

11. **Preventative Maintenance Plan**
    Prepare and attach a preventative maintenance plan for this piece of control equipment. Label the attachment FORM CE-03, ADSORBER PMP.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Condensers -- FORM CE-04

1. **Unit ID:** Provide the unit (facility) identification number from FORM GSD-03, FLOW DIAGRAM.

2. **S/V ID:** Provide the stack or vent identification number from FORM GSD-02, PLANT LAYOUT and FORM GSD-04, STACK/VENT IDENTIFICATION.

3. **Control Device ID:** Provide the control device identification number consistent with other forms (FORM GSD-02, PLANT LAYOUT; GSD-03, FLOW DIAGRAM; ETC.).

4. **Manufacturer:** Provide the manufacterer's name.

5. **Model #:** Provide the condenser model number.

6. **Installation Date:** Provide the date the condenser was installed.

7. **Type of Condenser:** Provide the condenser type. Indicate if the device is a contact condenser, surface condenser, etc. Include any additional information to fully describe the device.

8. **Type of Coolant:** Indicate the substance to be used as the coolant.

9. **Coolant Temperature (°F):** Provide the operating inlet temperature and outlet temperature of the coolant in degrees Fahrenheit.

10. **Pollutant and Control Efficiency - Expected Maximum**
Indicate what pollutants will be controlled and the capture efficiency of the condenser. The method to determine efficiency must also be included. Indicate if the method was a stack test (include date of test) or manufacturer's data.

11. **Monitoring** Describe the methods, procedures, equipment to be used to monitor the condenser. Also provide the frequency of the monitoring.

12. **Preventative Maintenance Plan** Prepare and attach a preventative maintenance plan for this piece of control equipment. Label the attachment FORM CE-04, CONDENSER PMP.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Miscellaneous Control Equipment -- FORM CE-05

1. **Unit ID:** Provide the unit (facility) identification number from FORM GSD-03, FLOW DIAGRAM for the unit exhausting through the control equipment. If the control equipment serves more than one unit, include all IDs.

2. **S/V ID:** Provide the stack or vent identification number.

3. **Control Device ID:** Provide the control device identification number consistent with other forms (FORM GSD-02, PLANT LAYOUT; GSD-03, FLOW DIAGRAM; ETC.).

4. **Equipment Description:** Provide a detailed description of the control equipment to be utilized. Include drawings to scale and attach to this form.

5. **Manufacturer Name:** self explanatory

6. **Model #:** self explanatory

7. **Installation date:** Provide the date the equipment was installed.

8. **Monitoring Description:** Provide a description of the methods, procedures to be used to monitor the control equipment. Also include the frequency of the monitoring.

9. **Preventative Maintenance Plan:** Prepare and attach a preventative maintenance plan for this piece of control equipment. Label the attachment FORM CE-05, MISCELLANEOUS PMP.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Facility/Unit Compliance Status -- FORM CD-01

1. Company Name: self explanatory

2. Source ID: Provide the source identification number (AIRS facility ID).

3. Unit ID: Provide the unit identification number assigned to the unit (facility) on FORM GSD-02, PLANT LAYOUT; FORM GSD-03, FLOW DIAGRAM; and GSD-04, EMISSION UNIT DESCRIPTION.

4. S/V ID: Provide the stack or vent identification number assigned to the unit (facility) on FORM GSD-02 and FORM GSD-04.

5. Citation: Provide the citation of the applicable requirements determined to be applicable to this unit (facility).

6. Description: Briefly describe the applicable requirement. Examples are NSPS (New Source Performance Standard), NESHAP (National Emission Standard for Hazardous Air Pollutants), SIP requirement, NSR/PSD permit condition, etc.

7. State/Local only: If the applicable requirement is a state or local agency requirement, then place an "X" here.

8. Limitation: Provide the actual limitation stated in the applicable requirement.

9. Test Method: If the applicable requirement requires the use of a specific test method, provide the test method. If no test method is required, place "N/A" here.

10. In Comp. (y/n): Indicate whether the unit (facility) is in compliance with the applicable requirement. Simply place a "y" or "n" in this column.

11. Other requirements: List any other requirements that are applicable to this source. Such requirements could include existing permit requirements, such as periodic stack testing, restrictions on throughput or operational hours, total solvent usage, etc. Indicate if the requirements are State or Local agency requirements and if the facility (unit) are in compliance. List any reporting activities required by permit, order, statute or rule regarding compliance that are not addressed elsewhere in the application.

    List any activities that are known to be subject to new requirements during the term of the proposed permit. Consider new requirements on emissions, monitoring, recordkeeping, testing or test methods, and reporting (e.g. MACT standard to be developed by November 1997.

If you need additional space, attach a separate page and label the page FORM CD-01, Facility/Unit Compliance Status.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Compliance Plan by Applicable Requirement -- FORM CD-02

1. **Company Name:** self explanatory

2. **Source ID:** Provide the source identification (AIRS facility ID).

3. **Applicable Requirement Name:** Provide the name of the applicable requirement.

4. **Applicable Requirement Citation:** Provide the citation of the applicable requirement.

5. **Table:** List the emission units, stacks/vents, and/or pollution control equipment that the requirement listed in #3 applies to.

6. **Limitations:** List each operational and/or emission limit specified in the applicable requirement in #3.

7. **Monitoring:** List the emission units, stack/vents, or pollution control equipment listed under #5. that will be monitored.

   Specify what will be monitored and the monitoring frequency. For example, particulate matter emissions could be monitored by monitoring the pressure drop across the baghouse once per operating day.

8. **Record Keeping:** List what records will be kept, with what frequency, for each item listed in #5.

9. **Testing:** List any performance tests to be conducted with the items listed #5. When you conduct a performance test, follow the specific test methods that are described in the rule or regulation that applies. List the test methods to be used and the frequency of the testing.

10. **Reporting schedule:** Provide a description of the reporting schedule to be used. The schedule should include what will be reported and how often the reports will be submitted.

NOTE: It is not necessary to complete a FORM CD-02 and CD-03 for the same unit. You may choose which form to use. You must provide a compliance plan for all units, but you may use either FORM CD-02 or FORM CD-03 or a combination of the two forms to accomplish this.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Compliance Plan by Facility/Unit -- FORM CD-03

1. **Company Name:** self explanatory

2. **Source ID:** Provide the source identification number (AIRS facility ID).

3. **Unit ID:** Provide the identification number for the unit (facility). This number should be the same number assigned on the FLOW DIAGRAM, GSD-03 and EMISSION UNIT DESCRIPTION, GSD-04.

4. **Applicable Requirements:**

   Rule or Regulation — List all of the applicable requirements that apply to this unit (facility).

   Citation — Provide the statuatory citation for the corresponding applicable requirement.

5. **Limitations:** List each operational and/or emission limit that is specified in the applicable requirement(s) identified above.

6. **Monitoring:** If this unit (facility) will be monitored, specify the monitoring to be conducted and the frequency of the monitoring. List the associated stack/vent and any pollution control equipment. For example, particulate matter could be monitored by monitoring the pressure drop gauge of the baghouse once each operating day.

7. **Record Keeping:** List what records will be kept for this unit (facility). Also list the frequency with which the records will be kept.

8. **Testing:** Indicate if performance tests will be conducted on this unit (facility). The performance test must follow the specific test methods described in the rule or regulation. List the test methods to be used and the frequency of the testing.

9. **Reporting:** Provide a reporting schedule for the unit (facility). The schedule should include what is being reported (e.g. excess emissions, test results, monitoring data, etc.) and the frequency of the reporting (e.g. monthly, quarterly, semi-annually, annually).

NOTE: It is not necessary to complete a FORM CD-02 and CD-03 for the same unit. You may choose which form to use. You must provide a compliance plan for all units, but you may use either FORM CD-02 or FORM CD-03 or a combination of the two forms to accomplish this.

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

Compliance Schedule -- FORM CD-04

1. **Company Name:** self explanatory

2. **Source ID:** Provide the source identification number (AIRS facility ID).

3. **Unit ID:** Provide the unit (facility) identification number. Use the same number assigned to the unit (facility) when completing the PLANT LAYOUT, FORM GSD-02; FLOW DIAGRAM, GSD-03; and EMISSION UNIT DESCRIPTION, GSD-04.

4. **S/V ID:** Provide the the stack/vent identification number that exhausts the unit (facility). Use the same number assigned to the stack/vent when completing the PLANT LAYOUT, FORM GSD-02 and STACK/VENT INFORMATION, GSD-04.

5. Mark the boxes that are applicable to formally commit to maintaining compliance for the duration of the permit.

6. For each applicable requirement identified on FORM CD-01 with which the emissions unit (facility) is presently not in compliance, briefly describe how compliance will be achieved. Include the equipment or operational changes necessary to come into compliance. Refer to orders, judgements, approved plans or other documents that establish or more fully describe how applicable requirements will be met. FORM MISC-01, MISCELLANEOUS INFORMATION may be used to provide additional information.

   Summarize the schedule of measures leading to compliance with all requirements. Include remedial measures and deadlines for milestone events (e.g. contract award date, start dates for construction or installation, completion of operator training, etc.). Reference any orders, decrees or other judgements that establish or more fully describe the compliance schedule.

   Provide a schedule for the submission of progress reports. The schedule must include a starting date and the submission of reports on a regular schedule. Refer to appropriate documents that establish or more fully describe the submission schedule. The frequency of submittals must be at least semi-annually (every 6 months).

7. Progress Report Submission

   Progress report submission start date: Provide the date that you will submit the first progress report.

   Frequency of report submissions: Provide a schedule of future progress report submissions (i.e., monthly, quarterly, semi-annually, etc.)

8. For sources that are subject to the requirments under section 112(r), Accidental

Release Prevention.

Regulations for implementation of this program have not been finalized as of this date. Compliance will be required upon promulgation of final rules.